

ACIDIC PRECIPITATION
IN ONTARIO STUDY

CUMULATIVE (28 DAY)
PRECIPITATION CHEMISTRY LISTINGS
1986

ARB-034-88

APIOS-002-88

JUNE 1988

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Ontario

Ministry
of the
Environment

Jim Bradley
Minister

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ACIDIC PRECIPITATION IN ONTARIO STUDY
CUMULATIVE (28 DAY) PRECIPITATION CHEMISTRY LISTINGS
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Atmospheric Research and Special Projects Section
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Toronto, Ontario, Canada
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A.P.I.O.S. Coordination Office
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PART I

INTRODUCTION

INTRODUCTION

The data listed herein are a summary of the results acquired from the APIOS cumulative precipitation sampling network from January 1, 1986 to December 31, 1986. The sampler utilized for collection of wet cumulative deposition is the M.I.C. Type "A" collector (Sangamo). During May to October when precipitation is mainly in the form of rain, the Sangamo collector is equipped with a 34 cm x 61 cm polyethylene bag insert. For snow and snow/rain collection from November to April, deeper collection vessels are utilized (122 cm) with 34 cm x 122 cm polyethylene gas insert. The deeper collection vessel is utilized to reduce snow blow out. The period of accumulation per sample is 28d days.

All data presented in this report have been screened for validity. Remarks and qualifications have been appended to records, and/or results where necessary. The screening procedure involved checking each record for chemical analysis integrity (e.g. ionic balance, observed vs. theoretical conductance). Gross limits checks were applied to the results. Upper limits were determined as $M + 2S$ where median (M) and scale (S) represent robust estimates of the mean and standard deviation respectively. Scale of the distribution was estimated from interquartile distance, i.e. $S = 0.74$ (3rd quartile - 1st quartile) based upon logarithmic transformed results. In a situation where the distribution is significantly bounded by reported detection limits, S may be estimated as follows, $S = 1.48$ (3rd quartile - 2nd quartile). Lower gross limits were specified by the above method except for those parameters with minimum values near or at the detection limits (Cl, Mg, K, Na, Ph, Mn, Ni, Pb, V, Al, Cu, Zn, Fe, Cd). For these parameters a lower gross limit of zero was utilized. The data were also screened for outliers statistically by applying the Dixon Ratio test to the highest and lowest values observed in each region on a monthly basis. Outliers were determined at the 95% level of confidence. Records and/or results deemed unreliable are flagged but not deleted. Detailed description of the validation procedures as applied to this data set is available from the Ministry upon request.

Station Identification

The station identification is defined by four descriptive fields (e.g., Dorset/Cumulative/Wet #20). The first field refers to the sampling location. The second and third fields describe the sampling interval and the sampling type (e.g., wet or dry) respectively. The last numeric field refers to the index code utilized on the location map. All precipitation chemistry listings are given in alphabetical order by station name within each region.

Cumulative Precipitation Chemistry Listings

Sample type, as coded in the data listings, represents the state of the collected sample at time of removal. The sample date represents the date on which the sample was removed from the sampler. All chemical analyses were done on unfiltered samples. Lab pH entries represent pH measurements obtained at the MOE Laboratory in Toronto.

Total hydrogen ion concentration is reported for either titration of the sample with NaOH to an end point pH of 8.3 or gran analysis titration. For a complete outline of lab analytical methodology please consult the Ontario Ministry of the Environment report "Outlines of Analytical Methods" coordinated by Water Quality Section, Laboratory Services Branch, June 1981.

Of the reported metals, aluminum, copper, iron and zinc were found to display significant adsorptive losses. As a result, a leach solution of 5% HNO₃ (1 litre) is placed in the emptied collection bag for 24 hours. The leach solution is then analysed for the above metals and a final metal concentration is then calculated. Prior to 1986, in the calculation of final metal concentration, if a detection limit (<T) was encountered, a value corresponding to one half the detection limit was utilized. As of 1986, <T values are no longer halved in these calculations.

Co-located with each sampler is a cumulative precipitation gauge which serves as a primary standard of precipitation during the collection period. However, if the cumulative gauge depth is missing or is thought to be inaccurate, then an approximate precipitation depth is determined. The approximation is made by accumulating the surrounding CLIMAT* station daily depth gauge results individually and then interpolating using a modified kriging method (1) to the APIOS station. Sometimes precipitation gauge results cannot be calculated by the above method, in which case the data are missing in the tables to follow.

Calculation of Equivalent Precipitation Depth (mm)

$$\text{Equivalent Precipitation Depth (mm)} = \frac{\text{Volume Collected (ml)} \times 30.8}{1000}$$

Calculation of Observed Sampling Efficiency

$$\% \text{ Efficiency} = \frac{\text{Equivalent Precipitation Depth (mm)} \times 100 \%}{\text{Gauge Depth (mm)}}$$

Field Comment Code Index

- A - Insects in sample
- B - Leaves in sample
- C - Particulates in sample
- D - Fibres in sample
- E - Sample not submitted
- F - Sampler malfunctioned
- G - Sample spilled or leaked
- H - Volume incorrect
- I - Event(s) missed
- J - Wet side open when not precipitating
- K - No precipitation collected
- L - Part of event missed
- M - Dry side open when precipitating
- P - Gauge depth incorrect
- Q - Other

* Environment Canada, Atmospheric Environment Service Meteorological Observations in Eastern Canada, Monthly Record.

(1) Spatial Trend Analysis and Uncertainly Estimates of Acid Deposition Data in Ontario, A.J.S. Tang and W.H. Chan, reprint #85-6A.6, 78th Air Pollution Control Association Annual Meeting, Detroit, Michigan, June 16-18, 1985.

Office Comment Code Index

C - calculated/observed conductance discrepancy
H - calculated/observed pH discrepancy
J - Δ pH large
M - poor ionic balance
N - abnormal sampler efficiency
T - free hydrogen exceeds total hydrogen
X - sample lost

Analytical Result Remark Code Index

> - actual result greater than value reported
< - actual result less than value reported
< T - actual result less than criterion of detection
< W - no response, minimum possible result reported
A - approximate value
U - unreliable result
L - bag leach result not available
<L - bag leach result not available and precipitation sample
result has been reported as a detection limit
LG - exceedance of lower gross limit checks
UG - exceedance of upper gross limit checks
D - outlier of Dixon Ratio Test
B - exceedance of gross limit checks and outlier of Dixon
Ratio Test

RE2067

INTRODUCTION

Le présent rapport renferme les données du réseau de surveillance des précipitations totales, créé dans le cadre de l'Étude sur les précipitations acides en Ontario (APIOS), données recueillies entre le 1^{er} janvier et le 31 décembre 1986. On a utilisé un échantillonneur de modèle M.I.C. « A » (Sangamo). De mai à octobre, période de pluies principalement, on installe sur l'échantillonneur Sangamo un sac de polyéthylène de 34 cm sur 61 cm; de novembre à avril, pour recueillir les échantillons de neige et de neige mouillée, on utilise des vaisseaux plus profonds (122 cm) avec un sac de polyéthylène de 34 cm sur 122 cm. On se sert de tels vaisseaux pour éviter que la neige se disperse. La période d'échantillonnage dure 28 jours.

Toutes les données ont été contrôlées pour s'assurer de leur validité et les observations et les réserves ont été annexées aux fiches ou aux résultats lorsque c'était nécessaire. Le contrôle des données supposait la vérification de chaque fiche en vue d'établir l'intégrité des analyses chimiques (par exemple, l'équilibre entre les ions positifs et les ions négatifs ou la conductance réelle contre la conductance théorique). Des valeurs limites ont été appliquées aux résultats obtenus. Les limites supérieures ont été fixées à $M + 2S$, où la médiane (M) et l'échelle (S) représentent des approximations de l'écart moyen et de l'écart type. L'échelle de distribution a été estimée à des intervalles interquartiles, c'est-à-dire que $S = 0,74$ (3^e quartile - 1^{er} quartile), à partir d'un calcul logarithmique. Dans les cas où la distribution se situe clairement à l'intérieur des seuils de détection, on peut admettre que $S = 1,48$ (3^e quartile - 2^e quartile). Cette méthode permet également de déterminer les valeurs limites inférieures, à l'exception des paramètres dont la valeur minimale correspond au seuil de détection ou s'en approche (Cl, Mg, K, Na, Ph, Mn, Ni, Pb, V, Al, Cu, Zn, Fe, Cd). Dans ces cas-là, la valeur limite inférieure a été fixée à zéro. Par ailleurs, on a cherché à identifier les

cas déviants à l'aide du test de rapports Dixon; il s'agissait ici d'appliquer le test aux valeurs les plus élevées et les moins élevées mesurées dans chaque région mensuellement. Le coefficient de confiance relatif aux cas déviants a été établi à 95 %. Les fiches et les résultats jugés non fiables ont été signalés comme tels, mais non supprimés. On peut se procurer auprès du Ministère la description détaillée des procédés de validation employés aux fins de la présente étude.

Identification des stations

On a identifié les stations selon quatre paramètres (par exemple, Dorset/Cumulative/Wet #20). Le premier paramètre est le lieu où l'échantillonnage a été effectué. Les deuxième et troisième paramètres décrivent la fréquence de l'échantillonnage et le genre d'échantillon (sec ou humide), respectivement. Finalement, le quatrième paramètre correspond au code numérique figurant sur le plan. Les données chimiques sur les précipitations sont classées par région selon l'ordre alphabétique des stations.

Données cumulatives sur la composition chimique des précipitations

Le type d'échantillon, tel qu'il est indiqué dans les données, représente l'état de l'échantillon au moment du prélèvement. La date indiquée est celle à laquelle on a retiré l'échantillon de l'échantillonneur. Toutes les analyses chimiques ont été effectuées à l'aide d'un échantillonneur sans filtre. Les données sur le pH en laboratoire ont été obtenues au laboratoire principal du Ministère, à Toronto.

La concentration en ions hydrogène représente soit un titrage de l'échantillon avec du NaOH dont le pH atteint 8,3 au point de virage, soit un titrage selon la méthode de Gran. La méthode d'analyse en laboratoire est décrite dans un rapport du ministère de l'Environnement intitulé *Outlines of Analytical Methods*,

préparé en juin 1981 par la section de la qualité de l'eau de la Direction des services de laboratoire.

Par ailleurs, on a constaté que le pouvoir d'adsorption de l'aluminium, du cuivre, du fer et du zinc avait diminué considérablement. On a donc versé un litre d'une solution de lixiviation de HNO_3 à 5 % dans le sac à échantillons. Après 24 heures, on a analysé la solution et calculé la concentration finale des métaux qui s'y trouvaient. Avant 1986, si, au moment de calculer la concentration finale des métaux, un seuil de détection (<T) intervenait, on le calculait à partir d'une valeur correspondant à la moitié du seuil. Depuis 1986, cette valeur n'est plus coupée de moitié.

Chaque échantillonneur est couplé à un pluviomètre dans lequel s'accumule l'eau et qui sert de mesure des précipitations pendant la période d'échantillonnage. Si toutefois la hauteur totale des précipitations mesurée par le pluviomètre est manquante ou semble incorrecte, on calculera une hauteur approximative. Voici comment on procède : on commence d'abord par accumuler les résultats obtenus quotidiennement dans les stations CLIMAT* à l'aide des pluviomètres, puis on applique la méthode de krigeage modifiée¹ afin d'interpoler les résultats à ceux obtenus dans les stations APIOS. Il a été impossible parfois de calculer les résultats nécessaires à partir de cette méthode, et par conséquent les données ne figurent pas dans les tableaux.

Calcul de la hauteur équivalente des précipitations (mm) x 30,8

$$\text{Hauteur équivalente des précipitations (mm)} = \frac{\text{Volume recueilli (ml)}}{1000}$$

* Environnement Canada, Services de l'environnement atmosphérique.
Résumé mensuel - Données météorologiques pour le Canada oriental.

¹ A.J.S. Tang et W.H. Chan. *Spatial Trend Analysis and Uncertainty Estimates of Acid Deposition Data in Ontario*, réimpression n° 85-6A.6, 78^e assemblée annuelle de l'Air Pollution Control Association, Detroit (Michigan), du 16 au 18 juin 1985.

Calcul de l'efficience de l'échantillonnage

$$\% \text{ efficience} = \frac{\text{hauteur équivalente des précipitations (mm)} \times 100 \%}{\text{hauteur mesurée par le pluviomètre (mm)}}$$

Index des codes d'observation sur place

- A - Insectes dans l'échantillon
- B - Feuilles dans l'échantillon
- C - Particules dans l'échantillon
- D - Fibres dans l'échantillon
- E - Échantillon manquant
- F - Défaillance de l'échantillonneur
- G - Échantillonneur percé ou renversé
- H - Volume inexact
- I - Précipitation(s) manquée(s)
- J - Côté mouillé exposé par temps sec
- K - Aucun échantillon recueilli
- L - Manque une partie de la précipitation
- M - Côté sec exposé par temps humide
- P - Hauteur mesurée par le pluviomètre inexacte
- Q - Autre

Index des codes d'observation à partir du laboratoire

- C - Écart entre la conductance théorique et la conductance réelle
- H - Écart entre la mesure théorique du pH et la mesure réelle
- J - pH trop élevé
- M - Pauvre équilibre entre les ions positifs et les ions négatifs
- N - Fonctionnement anormal de l'échantillonneur
- T - Concentration en ions H^+ dissociés supérieure au nombre total des ions H^+
- X - Échantillon perdu

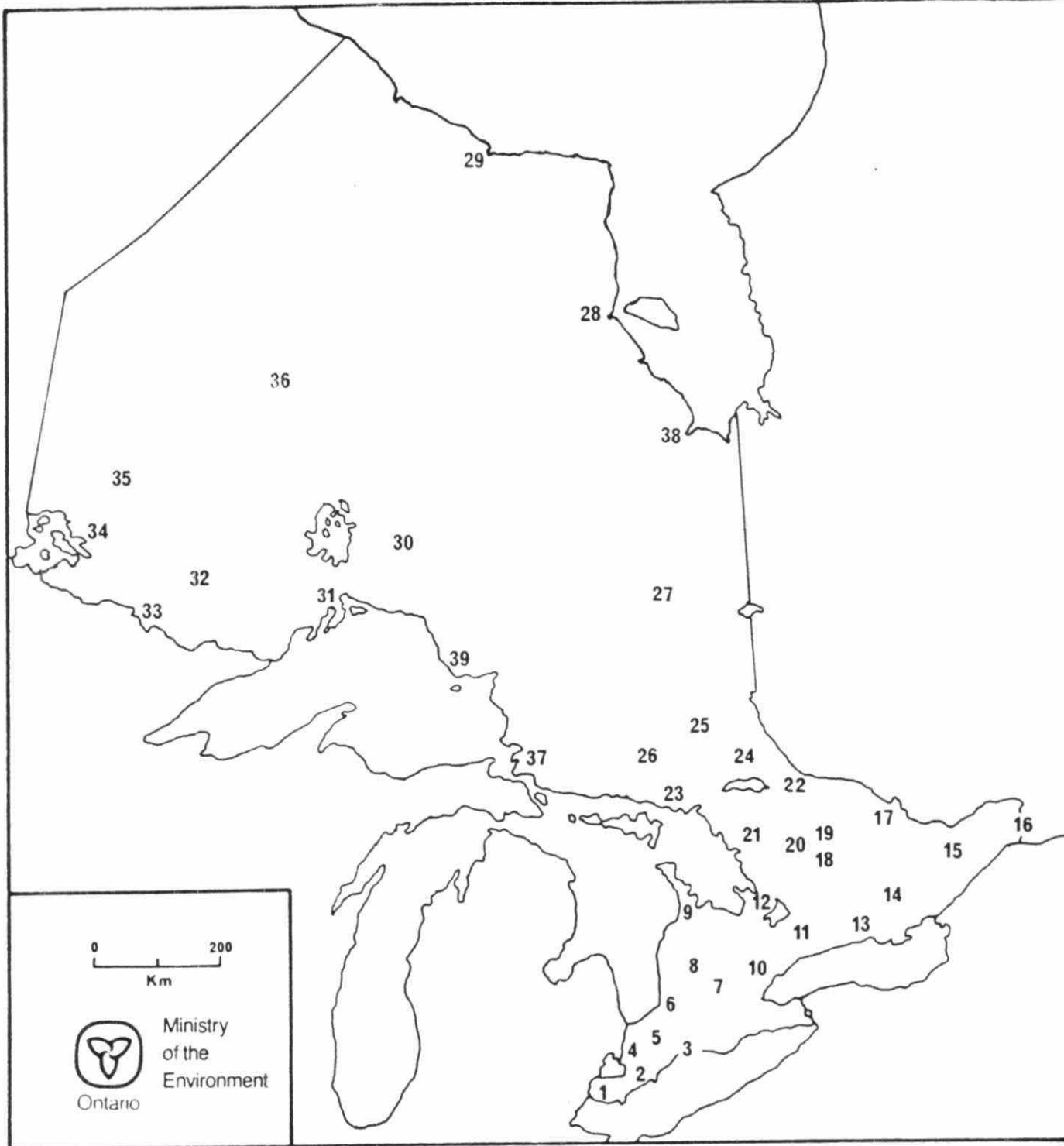
Index des codes pour les résultats

- > - résultat réel supérieur à la valeur inscrite
- < - résultat réel inférieur à la valeur inscrite
- <T - résultat réel inférieur au critère de détection
- <W - réponse nulle, résultat minimal inscrit
- A - valeur approximative

- U - résultat non fiable
- L - résultat de lixiviation manquant
- <L - résultat de lixiviation manquant et résultat de
l'échantillon utilisé comme seuil de détection
- LG - dépassement des valeurs limites inférieures
- UG - dépassement des valeurs limites supérieures
- D - cas déviant du test de rapports Dixon
- B - dépassement des contrôles de valeur limite et cas déviant
du test de rapports Dixon

PART II

STATION DESCRIPTION AND LOCATION MAP



- | | | |
|--|---|---|
| 1. Colchester* | 15. Smith's Falls* | 29. Winisk (rem. Dec '86) |
| 2. Merlin | 16. Dalhousie Mills* | 30. Geraldton (replaced Nakina, Aug '83) |
| 3. Pt. Stanley* | 17. Golden Lake* | 31. Dorion* |
| 4. Wilkesport* | 18. Wilberforce | 32. Quetico Centre* |
| 5. Alvinston | 19. Whitney | 33. Lac la Croix |
| 6. Huron Park | 20. Dorset* | 34. Experimental Lakes Area |
| 7. Waterloo | 21. McKellar* | 35. Ear Falls* |
| 8. Palmerston* | 22. Mattawa* | 36. Pickle Lake* |
| 9. Shallow Lake* | 23. Killarney* | 37. Turkey Lake* |
| 10. Milton (removed March '84) | 24. Bear Island | 38. Moosonee* (installed October '85) |
| 11. Uxbridge* | 25. Gowganda* | 39. Otter Island* (summer only) |
| 12. Coldwater | 26. Azure Lake (repl. Ramsey, June '83) | 40. Sutton, Quebec (Intercomparison Site) |
| 13. Campbellford* | 27. Moonbeam* | |
| 14. Cloyne* (repl. Kalladar, June '83) | 28. Attawapiskat (rem. Feb '84) | |

* indicates both a wet and dry deposition network site

APIOS CUMULATIVE WET AND DRY DEPOSITION NETWORK SITE DESCRIPTIONS

MOE REGION	STATION NAME	ELEVATION (m above MSL)	LATITUDE (North)	LONGITUDE (West)	UTM GRID CO-ORDINANTS (Northing) (Easting)
Southwestern	Colchester	183	41°59'15"	82°55'41"	4650000 340300
	Alvinston	221	42°49'36"	81°50'04"	4942000 431550
	Pt. Stanley	213	42°40'22"	81°09'55"	4724050 486700
	Huron Park	250	43°17'28"	81°30'03"	4793000 459350
	Wilkesport	183	42°42'11"	82°21'13"	4728350 389150
	Merlin	191	42°14'47"	82°13'30"	4676400 398950
	Shallow Lake	229	44°34'54"	8°05'24"	4936200 492850
	Palmerston	389	43°48'19"	80°54'12"	4850050 507750
	Waterloo	343	43°28'39"	80°35'09"	4813750 533500
Central	Dorset	320	45°13'26"	78°55'52"	5009650 662400
	Coldwater	280	44°37'31"	79°32'08"	4942200 615900
	Milton	221	43°31'05"	79°55'54"	4818600 586350
	Uxbridge	244	44°12'46"	79°12'38"	4896800 643000
	Campbellford	175	44°17'28"	77°47'33"	4907600 277150
	Wilberforce	396	45°00'54"	78°12'58"	4988150 719400
Southeastern	Smith's Falls	122	44°56'41"	75°57'48"	4977100 423950
	Dalhousie Mills	69	45°19'00"	74°28'13"	5018100 541550
	Golden Lake	160	45°36'48"	77°12'03"	5053200 328400
	Cloyne	259	44°49'09"	77°11'45"	4964750 327100
Northeastern	McKellar	244	45°30'57"	79°55'19"	5040600 583950
	Azure Lake	244	47°28'12"	81°52'30"	5257650 434250
	Killarney	183	45°59'26"	81°29'18"	5092900 462200
	Bear Island	305	46°58'22"	80°04'40"	5202400 570350
	Mattawa	198	46°16'45"	78°49'19"	5127150 667800
	Gowganda	343	47°39'04"	80°46'32"	5277300 516600
	Moonbeam	244	49°19'16"	82°08'46"	5463600 416650
	Moosonee	4	51°12'35"	80°42'20"	5673000 520550
	Turkey Lake	472	47°03'15"	84°24'00"	5214250 696750
	Whitney	412	45°32'21"	78°15'35"	5045950 713950
	Attawapiskat	9	52°56'00"	82°24'00"	NA NA
	Northwestern				
Northwestern	Otter Island	204	48°06'50"	86°04'25"	5328750 569500
	Dorion	244	48°50'33"	88°36'45"	5410800 382150
	E.L.A.	123	49°39'22"	93°43'28"	5500950 447350
	Geraldton	351	49°48'05"	86°46'00"	5516300 516750
	Lac La Croix	368	48°21'14"	92°12'32"	5355900 558400
	Ear Falls	350	50°38'31"	93°13'13"	5609800 484150
	Quetico Centre	420	48°44'24"	91°12'08"	5399750 632100
	Pickle Lake	360	51°27'41"	90°12'04"	5704800 694550
	Winisk	9	55°12'00"	85°08'00"	NA NA
Quebec	Sutton	243	45°04'35"	72°40'35"	4995100 680950

PART III

SOUTHWESTERN REGION

CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : ALVINSTON/CUMULATIVE PRECIP.

#05

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 29,86	DEC 31,85	1100	1100	2	46.6	3	74076	2	1	U 16	G HM
FEB 25,86	JAN 29,86	1100	1200	3	59.1	3	74098	2	1	66	
MAR 25,86	FEB 25,86	1200	1200	3	51.6	2	74114	2	1	100	
APR 22,86	MAR 25,86	1200	1130	3	79.3	2	74124	2	1	70	CA
MAY 20,86	APR 22,86	1130	1100	1	41.0	3	74140	2	1	89	AC
JUN 17,86	MAY 20,86	1100	1200	1	74.0	3	74156	2	1	84	AC
JUL 15,86	JUN 17,86	1200	1130	1	95.0	3	74178	2	1	92	CD
AUG 12,86	JUL 15,86	1130	1100	1	103.0	3	74202	2	1	90	
SEP 9,86	AUG 12,86	1100	1050	1	33.0	3	74212	2	1	90	
OCT 7,86	SEP 9,86	1100	1200	1	189.0	3	74236	2	1	87	ABC
NOV 4,86	OCT 7,86	1200	1100	1	60.0	3	74250	2	1	73	
DEC 2,86	NOV 4,86	1100	1100	3	41.4	3	74260	2	1	123	N
DEC 30,86	DEC 2,86	1100	1200	3	68.7	2	74276	2	1	82	C

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 29,86	DEC 31,85	250.0	U 9.3	U 4.94	U 0.0317	U 0.60	U 0.22	0.24
FEB 25,86	JAN 29,86	1268.0	38.4	4.13	0.1060	3.10	0.82	0.43
MAR 25,86	FEB 25,86	1686.0	33.8	4.17	0.0829	3.20	0.76	0.51
APR 22,86	MAR 25,86	1818.0	31.3	4.30	0.0748	3.35	0.64	0.37
MAY 20,86	APR 22,86	1193.0	32.0	4.27	0.0740	4.15	0.55	0.52
JUN 17,86	MAY 20,86	2025.0	30.1	4.23	0.0796	3.05	0.39	0.23
JUL 15,86	JUN 17,86	2865.0	27.8	4.38	0.0632	3.40	0.44	0.43
AUG 12,86	JUL 15,86	3014.0	36.8	4.19	0.0926	3.85	0.54	0.38
SEP 9,86	AUG 12,86	967.0	31.9	4.24	0.0816	3.65	0.45	0.41
OCT 7,86	SEP 9,86	5390.0	29.1	4.23	0.0817	2.90	0.39	0.16
NOV 4,86	OCT 7,86	1439.0	28.9	4.23	0.0775	2.95	0.54	0.27
DEC 2,86	NOV 4,86	1665.0	16.9	4.56	0.0506	1.70	0.34	0.42
DEC 30,86	DEC 2,86	1840.0	26.1	4.27	0.0769	1.65	0.45	<T 0.08

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : ALVINSTON/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 29,86	DEC 31,85	0.30	0.30	0.040	0.110	0.185	0.120	0.011
FEB 25,86	JAN 29,86	0.37	0.32	0.070	0.025	0.120	0.290	<T 0.001
MAR 25,86	FEB 25,86	0.24	0.51	0.070	0.025	0.090	0.475	<T 0.002
APR 22,86	MAR 25,86	0.17	0.70	0.080	0.045	0.065	0.590	0.010
MAY 20,86	APR 22,86	0.20	0.57	0.095	0.095	0.065	0.530	0.006
JUN 17,86	MAY 20,86	0.09	0.31	0.045	0.025	0.040	0.260	0.008
JUL 15,86	JUN 17,86	0.13	0.38	0.110	D 0.110	0.025	0.285	<T 0.001
AUG 12,86	JUL 15,86	0.16	0.42	0.075	0.045	0.035	0.385	<W 0.001
SEP 9,86	AUG 12,86	0.13	D 0.32	0.080	D 0.085	0.020	D 0.280	<W 0.001
OCT 7,86	SEP 9,86	0.15	0.42	0.035	0.025	0.040	0.340	<W 0.002
NOV 4,86	OCT 7,86	0.11	0.40	0.045	0.025	<T 0.010	0.410	<T 0.004
DEC 2,86	NOV 4,86	0.13	LG 0.13	0.055	<T 0.005	0.040	0.105	0.010
DEC 30,86	DEC 2,86	0.21	0.39	<T 0.015	<T 0.025	0.080	0.180	D 0.023

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REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 29,86	DEC 31,85	0.002	0.0013	0.012	0.075	1DT 0.005	0.0006	0.147
FEB 25,86	JAN 29,86	0.006	D 0.0012	1DT 0.010	0.142	1DT 0.005	0.0010	0.076
MAR 25,86	FEB 25,86	0.004	UG 0.0065	0.007	0.048	0.008	< 0.0004	0.059
APR 22,86	MAR 25,86	0.004	0.0003	1DT 0.007	0.048	0.003	< 0.0004	0.044
MAY 20,86	APR 22,86	0.005	< 0.0002	0.009	0.049	0.004	0.0004	0.041
JUN 17,86	MAY 20,86	0.002	< 0.0002	1DT 0.002	0.021	0.009	< 0.0004	0.027
JUL 15,86	JUN 17,86	0.003	B 0.0028	0.005	0.033	1DT 0.001	< 0.0004	0.030
AUG 12,86	JUL 15,86	0.004	< 0.0002	0.007	0.044	1DT 0.003	< 0.0004	0.029
SEP 9,86	AUG 12,86	0.003	< 0.0002	0.006	0.039	0.003	0.0004	0.051
OCT 7,86	SEP 9,86	< 0.001	< 0.0002	0.007	0.014	0.004	< 0.0004	0.014
NOV 4,86	OCT 7,86	B 0.033	< 0.0002	1DT 0.009	0.038	0.003	< 0.0004	0.032
DEC 2,86	NOV 4,86	0.012	< 0.0002	0.004	0.031	0.002	< 0.0004	0.022
DEC 30,86	DEC 2,86	< 0.001	0.0002	1DT 0.007	0.012	1DT 0.002	D 0.0005	0.021

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ONTARIO MINISTRY OF THE ENVIRONMENT
 CUMULATIVE SAMPLING ANALYSIS RESULTS
 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : ALVINSTON/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+	MG/L
JAN 29,86	DEC 31,85	1DT 0.0040	0.00020	U	0.0115
FEB 25,86	JAN 29,86	0.0027	0.00024		0.0741
MAR 25,86	FEB 25,86	0.0026	0.00013		0.0676
APR 22,86	MAR 25,86	0.0012	D 0.00035		0.0501
MAY 20,86	APR 22,86	0.0025	< 0.00002		0.0537
JUN 17,86	MAY 20,86	UG 0.0102	0.00006		0.0589
JUL 15,86	JUN 17,86	1DT 0.0003	< 0.00002		0.0417
AUG 12,86	JUL 15,86	0.0004	0.00002		0.0646
SEP 9,86	AUG 12,86	1DT 0.0004	< 0.00002		0.0575
OCT 7,86	SEP 9,86	1DT 0.0004	< 0.00002		0.0589
NOV 4,86	OCT 7,86	< 0.0003	< 0.00002		0.0589
DEC 2,86	NOV 4,86	0.0017	0.00004		0.0275
DEC 30,86	DEC 2,86	0.0016	0.00003		0.0537

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : COLCHESTER/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	813	800	2	23.5	3	74071	2	1	59	
FEB 25,86	JAN 28,86	800	740	3	81.0	3	74093	2	1	62	
MAR 25,86	FEB 25,86	740	725	3	43.2	2	74109	2	1	83	C
APR 22,86	MAR 25,86	730	800	3	66.2	2	74119	2	1	U 64	CIM
MAY 20,86	APR 22,86	800	705	1	56.0	3	74135	2	1	U 84	FM
JUN 17,86	MAY 20,86	705	730	1	183.0	3	74151	2	1	93	CD
JUL 15,86	JUN 17,86	730	820	1	63.0	3	74173	2	1	U 79	ACH
AUG 12,86	JUL 15,86	820	800	1	100.0	3	74197	2	1	62	
SEP 9,86	AUG 12,86	800	730	1	72.0	3	74207	2	1	74	C
OCT 7,86	SEP 9,86	730	800	1	181.0	3	74232	2	1	90	AC
NOV 4,86	OCT 7,86	800	710	1	38.0	3	74246	2	1	102	D
DEC 2,86	NOV 4,86	720	715	3	41.8	3	74256	2	1	142	C
DEC 30,86	DEC 2,86	730	800	3	58.4	2	74272	2	1	87	C

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	456.0	49.1	4.07	0.1230	3.50	1.18	0.51
FEB 25,86	JAN 28,86	1651.0	41.0	4.04	0.1080	3.00	0.74	0.19
MAR 25,86	FEB 25,86	1175.0	33.2	4.14	0.0850	3.00	0.74	0.46
APR 22,86	MAR 25,86	1380.0	31.1	4.28	0.0778	3.70	0.50	0.30
MAY 20,86	APR 22,86	1545.0	28.9	4.25	0.0759	3.30	0.33	0.12
JUN 17,86	MAY 20,86	5550.0	21.8	4.66	0.0462	3.55	0.35	0.29
JUL 15,86	JUN 17,86	1630.0	38.2	4.26	0.0893	4.35	0.70	0.46
AUG 12,86	JUL 15,86	2034.0	37.2	4.27	0.0869	5.15	0.45	0.23
SEP 9,86	AUG 12,86	1736.0	41.4	4.06	0.1140	4.90	0.38	0.27
OCT 7,86	SEP 9,86	5300.0	27.5	4.23	0.0787	2.80	0.28	<T 0.10
NOV 4,86	OCT 7,86	1260.0	43.8	4.03	0.1160	3.95	0.71	0.23
DEC 2,86	NOV 4,86	1940.0	24.4	4.27	0.0762	2.00	0.33	0.12
DEC 30,86	DEC 2,86	1651.0	D 36.1	4.10	0.1000	2.60	0.56	<T 0.08

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : COLCHESTER/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.59	0.71	0.070	0.040	0.195	0.580	<T 0.005
FEB 25,86	JAN 28,86	0.42	0.34	0.030	<T 0.020	0.160	0.305	<T 0.001
MAR 25,86	FEB 25,86	0.24	0.45	0.060	0.025	0.080	0.385	<T 0.004
APR 22,86	MAR 25,86	0.17	0.68	0.065	0.035	0.070	0.590	0.007
MAY 20,86	APR 22,86	0.16	0.71	0.040	0.055	0.070	0.365	0.018
JUN 17,86	MAY 20,86	0.17	1.08	0.050	0.105	0.060	0.880	B 0.097
JUL 15,86	JUN 17,86	0.24	0.43	0.100	0.050	0.055	0.550	0.014
AUG 12,86	JUL 15,86	0.14	1.09	0.050	0.130	0.065	0.900	0.074
SEP 9,86	AUG 12,86	0.15	UCR 0.51	0.060	0.030	0.020	0.420	UCR 0.002
OCT 7,86	SEP 9,86	0.20	0.30	0.025	<T 0.015	0.065	LG 0.205	<W 0.002
NOV 4,86	OCT 7,86	0.27	0.51	0.050	0.035	D 0.040	0.515	<T 0.002
DEC 2,86	NOV 4,86	0.14	LG 0.11	<T 0.020	<T 0.005	<T 0.010	0.120	<T 0.002
DEC 30,86	DEC 2,86	0.23	0.34	<T 0.015	<T 0.015	0.030	0.225	0.008

REMOVAL DATE	EXPOSURE DATE	MANGANESE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.004	0.0007	0.030	0.036	1DT 0.008	< 0.0004	0.088
FEB 25,86	JAN 28,86	0.003	0.0005	1DT 0.018	0.050	1DT 0.005	0.0007	0.055
MAR 25,86	FEB 25,86	0.004	UG 0.0045	1DT 0.008	0.038	0.008	< 0.0004	0.046
APR 22,86	MAR 25,86	0.003	0.0003	1DT 0.010	0.051	1DT 0.007	< 0.0004	0.051
MAY 20,86	APR 22,86	0.003	0.0002	0.014	0.057	UG 0.033	< 0.0004	0.049
JUN 17,86	MAY 20,86	0.004	< 0.0002	D 0.012	0.025	0.004	< 0.0004	0.029
JUL 15,86	JUN 17,86	0.007	0.0005	B 0.028	D 0.213	1DT 0.002	< 0.0004	D 0.085
AUG 12,86	JUL 15,86	0.002	< 0.0002	0.012	0.025	1DT 0.002	< 0.0004	0.023
SEP 9,86	AUG 12,86	0.001	< 0.0002	1DT 0.008	0.024	0.005	< 0.0004	0.035
OCT 7,86	SEP 9,86	< 0.001	< 0.0002	0.005	0.015	0.003	< 0.0004	1DT 0.008
NOV 4,86	OCT 7,86	0.002	< 0.0002	1DT 0.012	0.032	0.003	< 0.0004	1DT 0.015
DEC 2,86	NOV 4,86	0.001	< 0.0002	0.004	0.017	0.003	< 0.0004	0.018
DEC 30,86	DEC 2,86	0.001	< 0.0002	1DT 0.009	0.012	1DT 0.002	< 0.0004	0.024

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : COLCHESTER/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 28,86	DEC 31,85	1DT 0.0026	0.00026	0.0851
FEB 25,86	JAN 28,86	1DT 0.0019	0.00011	0.0912
MAR 25,86	FEB 25,86	0.0017	0.00008	0.0724
APR 22,86	MAR 25,86	< 0.0003	0.00006	0.0525
MAY 20,86	APR 22,86	1DT 0.0010	0.00013	0.0562
JUN 17,86	MAY 20,86	0.0016	0.00012	D 0.0219
JUL 15,86	JUN 17,86	1DT 0.0004	0.00004	0.0550
AUG 12,86	JUL 15,86	1DT 0.0005	0.00008	0.0537
SEP 9,86	AUG 12,86	U 0.1466	< 0.00002	0.0871
OCT 7,86	SEP 9,86	1DT 0.0004	D 0.00024	0.0589
NOV 4,86	OCT 7,86	1DT 0.0009	< 0.00002	0.0933
DEC 2,86	NOV 4,86	1DT 0.0012	< 0.00002	0.0537
DEC 30,86	DEC 2,86	0.0010	0.00010	0.0794

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HURON PARK/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	1000	1200	2	45.6	3	74079	2	1	29	N
FEB 25,86	JAN 28,86	1200	900	3	42.5	3	74101	2	1	51	
MAR 25,86	FEB 25,86	900	830	3	36.8	2	74117	2	1	74	
APR 22,86	MAR 25,86	1000	900	3	91.1	2	74127	2	1	67	
MAY 20,86	APR 22,86	1030	1030	1	45.0	3	74143	2	1	86	
JUN 17,86	MAY 20,86	1030	830	1	86.0	3	74159	2	1	91	
JUL 16,86	JUN 17,86	1000	800	1	83.0	3	74181	2	1	88	
AUG 12,86	JUL 16,86	800	815	1	121.0	3	74205	2	1	92	
SEP 9,86	AUG 12,86	815	1000	1	185.0	3	74215	2	1	41	N
OCT 7,86	SEP 9,86	1000	1000	1	283.2	9	74239	2	1	I 66	
NOV 4,86	OCT 7,86	1000	800	1	50.0	3	74253	2	1	102	Q
DEC 2,86	NOV 4,86	815	900	3	17.0	3	74262	2	1	120	N
DEC 30,86	DEC 2,86	900	1000	3	80.1	2	74287	2	1	68	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	436.0	LG 13.5	4.97	LG 0.0359	1.40	0.38	0.37
FEB 25,86	JAN 28,86	708.0	42.1	4.11	0.1130	3.95	0.89	0.51
MAR 25,86	FEB 25,86	896.0	36.2	4.22	0.0861	4.00	0.79	0.62
APR 22,86	MAR 25,86	1989.0	28.9	4.39	0.0657	3.45	0.65	0.37
MAY 20,86	APR 22,86	1270.0	33.4	4.30	0.0805	4.50	0.54	0.47
JUN 17,86	MAY 20,86	2560.0	28.7	4.36	0.0701	2.95	0.43	0.21
JUL 16,86	JUN 17,86	2375.0	27.2	4.34	0.0696	3.35	0.43	0.40
AUG 12,86	JUL 16,86	3620.0	37.3	4.17	0.0952	4.00	0.48	0.32
SEP 9,86	AUG 12,86	2500.0	38.2	4.13	0.0992	4.05	0.56	0.26
OCT 7,86	SEP 9,86	6150.0	28.9	4.26	0.0784	3.15	0.35	0.22
NOV 4,86	OCT 7,86	1667.0	30.6	4.23	0.0800	3.25	0.56	0.33
DEC 2,86	NOV 4,86	666.0	18.2	4.69	0.0471	2.40	0.56	0.84
DEC 30,86	DEC 2,86	1791.0	21.6	4.57	0.0520	2.30	0.53	0.66

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HURON PARK/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.22	0.46	0.070	0.025	0.080	0.300	0.013
FEB 25,86	JAN 28,86	0.38	0.56	0.075	<T 0.015	0.100	0.490	0.010
MAR 25,86	FEB 25,86	0.30	D 0.86	0.085	D 0.045	0.110	0.705	0.011
APR 22,86	MAR 25,86	0.17	0.97	0.070	0.040	0.070	0.800	0.009
MAY 20,86	APR 22,86	0.25	D 1.05	0.075	0.055	0.095	0.825	0.010
JUN 17,86	MAY 20,86	0.09	0.64	0.035	<T 0.015	0.040	0.465	0.011
JUL 16,86	JUN 17,86	0.12	0.51	0.065	0.020	0.020	0.485	<T 0.001
AUG 12,86	JUL 16,86	0.13	0.50	0.045	<T 0.020	0.020	0.420	<T 0.002
SEP 9,86	AUG 12,86	0.15	0.49	0.045	0.050	0.030	0.460	<W 0.001
OCT 7,86	SEP 9,86	0.21	0.56	0.045	D 0.060	0.100	0.385	<T 0.006
NOV 4,86	OCT 7,86	0.12	0.85	0.040	0.040	<T 0.010	0.500	<T 0.007
DEC 2,86	NOV 4,86	0.20	0.41	0.150	0.075	0.040	0.210	D 0.020
DEC 30,86	DEC 2,86	0.18	0.29	0.105	<T 0.020	0.060	0.315	<W 0.002

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REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.017	UG 0.0031	0.020	D 0.276	1DT 0.015	0.0012	U 0.656
FEB 25,86	JAN 28,86	0.004	0.0002	1DT 0.022	0.081	1DT 0.010	0.0009	0.108
MAR 25,86	FEB 25,86	0.005	0.0002	D 0.020	0.065	1DT 0.004	< 0.0004	D 0.125
APR 22,86	MAR 25,86	0.005	0.0003	1DT 0.016	0.035	1DT 0.003	< 0.0004	0.042
MAY 20,86	APR 22,86	0.006	0.0003	0.011	0.036	UG 0.026	0.0004	0.013
JUN 17,86	MAY 20,86	0.002	< 0.0002	1DT 0.005	0.013	0.008	< 0.0004	0.019
JUL 16,86	JUN 17,86	0.003	0.0003	0.010	0.031	1DT 0.002	< 0.0004	0.021
AUG 12,86	JUL 16,86	0.002	< 0.0002	0.009	0.020	1DT 0.002	< 0.0004	0.047
SEP 9,86	AUG 12,86	0.003	< 0.0002	1DT 0.009	0.038	0.005	< 0.0004	0.040
OCT 7,86	SEP 9,86	< 0.001	B 0.0013	0.010	0.015	0.002	< 0.0004	1DT 0.009
NOV 4,86	OCT 7,86	0.002	< 0.0002	1DT 0.017	0.027	1DT 0.002	< 0.0004	0.019
DEC 2,86	NOV 4,86	0.003	0.0002	0.010	0.032	0.003	< 0.0004	0.042
DEC 30,86	DEC 2,86	0.004	0.0002	1DT 0.022	0.018	D 0.005	< 0.0004	0.028

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HURON PARK/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	1DT 0.0032	0.00018	0.0107
FEB 25,86	JAN 28,86	1DT 0.0011	0.00011	0.0776
MAR 25,86	FEB 25,86	0.0021	0.00019	0.0603
APR 22,86	MAR 25,86	< 0.0003	0.00008	0.0407
MAY 20,86	APR 22,86	1DT 0.0027	0.00011	0.0501
JUN 17,86	MAY 20,86	1DT 0.0027	< 0.00002	0.0437
JUL 16,86	JUN 17,86	< 0.0003	0.00006	0.0457
AUG 12,86	JUL 16,86	< 0.0003	0.00002	0.0676
SEP 9,86	AUG 12,86	< 0.0003	< 0.00002	0.0741
OCT 7,86	SEP 9,86	D 0.0021	0.00011	0.0550
NOV 4,86	OCT 7,86	1DT 0.0006	< 0.00002	0.0589
DEC 2,86	NOV 4,86	1DT 0.0013	< 0.00002	0.0204
DEC 30,86	DEC 2,86	0.0007	0.00004	0.0269

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MERLIN/CUMULATIVE PRECIP.

#02

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	700	700	2	18.0	3	74072	2	1	55	
FEB 25,86	JAN 28,86	700	700	3	57.6	3	74094	2	1	83	
MAR 25,86	FEB 25,86	700	700	3	54.4	2	74110	2	1	68	
APR 22,86	MAR 25,86	700	700	3	80.9	2	74120	2	1	68	CD
MAY 20,86	APR 22,86	700	700	1	45.0	3	74136	2	1	63	
JUN 17,86	MAY 20,86	700	700	1	92.0	3	74152	2	1	88	AC C
JUL 15,86	JUN 17,86	700	700	1	98.0	3	74174	2	1	78	A
AUG 12,86	JUL 15,86	700	700	1	85.0	3	74198	2	1	80	
SEP 9,86	AUG 12,86	700	700	1	52.0	3	74208	2	1	80	
OCT 7,86	SEP 9,86	700	700	1	193.0	3	74233	2	1	69	U G
NOV 5,86	OCT 7,86	700	700	1	70.0	3	74247	2	1	72	B
DEC 2,86	NOV 5,86	700	700	3	27.4	3	74257	2	1	111	
DEC 30,86	DEC 2,86	700	1430	3	91.6	2	74273	2	1	64	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	326.0	55.2	4.10	0.1270	5.00	1.46	1.19
FEB 25,86	JAN 28,86	1568.0	43.8	4.10	0.1190	3.25	0.83	0.31
MAR 25,86	FEB 25,86	1205.0	33.1	4.17	0.0771	3.05	0.69	0.50
APR 22,86	MAR 25,86	1810.0	36.5	4.21	0.0891	3.90	0.68	0.34
MAY 20,86	APR 22,86	935.0	28.7	4.38	0.0668	4.00	0.53	0.60
JUN 17,86	MAY 20,86	2646.0	32.7	4.13	0.0936	4.45	0.59	0.35
JUL 15,86	JUN 17,86	2500.0	38.2	4.22	0.0911	4.25	0.60	0.29
AUG 12,86	JUL 15,86	2222.0	37.1	4.40	0.0693	6.10	0.69	0.96
SEP 9,86	AUG 12,86	1356.0	43.4	4.07	0.1120	5.25	0.44	0.37
OCT 7,86	SEP 9,86	4335.0	27.4	4.24	0.0799	2.65	0.35	0.18
NOV 5,86	OCT 7,86	1648.0	39.1	4.10	0.0999	4.00	0.75	0.37
DEC 2,86	NOV 5,86	995.0	28.6	4.23	0.0835	2.65	0.44	0.24
DEC 30,86	DEC 2,86	1920.0	24.4	4.48	0.0600	2.45	0.46	0.46

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MERLIN/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	UG 1.08	1.15	0.185	0.050	UG 0.675	0.640	B 0.068
FEB 25,86	JAN 28,86	0.53	0.39	0.050	<T 0.015	0.255	0.310	0.010
MAR 25,86	FEB 25,86	0.30	0.40	0.065	0.025	0.145	0.330	0.007
APR 22,86	MAR 25,86	0.19	0.71	0.070	0.045	0.050	0.645	<T 0.004
MAY 20,86	APR 22,86	0.15	0.69	0.100	0.060	0.050	0.575	0.012
JUN 17,86	MAY 20,86	0.18	0.65	0.070	0.065	0.040	0.590	0.007
JUL 15,86	JUN 17,86	0.18	0.44	0.060	0.035	0.035	0.470	<T 0.003
AUG 12,86	JUL 15,86	0.44	0.77	0.215	U 0.960	0.040	0.700	0.072
SEP 9,86	AUG 12,86	0.14	0.51	0.065	0.030	0.025	0.450	<W 0.001
OCT 7,86	SEP 9,86	0.16	0.35	0.035	0.025	0.055	0.265	<W 0.002
NOV 5,86	OCT 7,86	0.16	0.75	0.085	0.050	<T 0.010	0.585	<T 0.008
DEC 2,86	NOV 5,86	0.18	0.26	0.035	0.030	0.025	0.245	<T 0.002
DEC 30,86	DEC 2,86	0.47	1.43	0.080	0.130	0.380	0.270	<T 0.007

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.010	UG 0.0017	0.025	0.145	1DT 0.007	0.0009	0.047
FEB 25,86	JAN 28,86	0.003	0.0005	1DT 0.008	0.041	1DT 0.007	0.0007	0.048
MAR 25,86	FEB 25,86	0.004	UG 0.0053	1DT 0.008	0.063	0.007	< 0.0004	0.078
APR 22,86	MAR 25,86	0.004	0.0003	1DT 0.010	0.063	0.008	< 0.0004	0.063
MAY 20,86	APR 22,86	0.007	< 0.0002	0.012	0.077	1DT 0.038	< 0.0004	0.066
JUN 17,86	MAY 20,86	0.003	< 0.0002	1DT 0.003	0.032	0.012	< 0.0004	0.037
JUL 15,86	JUN 17,86	0.003	< 0.0002	0.009	0.044	1DT 0.003	< 0.0004	0.045
AUG 12,86	JUL 15,86	0.007	< 0.0002	0.012	0.044	0.005	< 0.0004	0.041
SEP 9,86	AUG 12,86	0.003	< 0.0002	1DT 0.007	0.042	0.006	< 0.0004	0.045
OCT 7,86	SEP 9,86	< 0.001	< 0.0002	0.021	0.008	0.003	< 0.0004	< 0.006
NOV 5,86	OCT 7,86	0.006	< 0.0002	1DT 0.011	0.033	0.005	< 0.0004	0.036
DEC 2,86	NOV 5,86	0.002	0.0003	0.008	0.032	0.005	< 0.0004	0.031
DEC 30,86	DEC 2,86	*****	*****	*****	*****	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MERLIN/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 28,86	DEC 31,85	1DT 0.0032	UG 0.00067	0.0794
FEB 25,86	JAN 28,86	0.0017	0.00013	0.0794
MAR 25,86	FEB 25,86	0.0008	0.00016	0.0676
APR 22,86	MAR 25,86	1DT 0.0004	0.00008	0.0617
MAY 20,86	APR 22,86	1DT 0.0019	0.00003	0.0417
JUN 17,86	MAY 20,86	0.0042	0.00009	0.0741
JUL 15,86	JUN 17,86	< 0.0003	< 0.00002	0.0603
AUG 12,86	JUL 15,86	0.0006	0.00008	0.0398
SEP 9,86	AUG 12,86	1DT 0.0005	< 0.00002	0.0851
OCT 7,86	SEP 9,86	1DT 0.0003	0.00003	0.0575
NOV 5,86	OCT 7,86	1DT 0.0003	D 0.00003	0.0794
DEC 2,86	NOV 5,86	0.0020	0.00004	0.0589
DEC 30,86	DEC 2,86	*****	*****	0.0331

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PALMERSTON/CUMULATIVE PRECIP.

#08

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	1300	1300	2	32.1	3	74078	2	1	64	
FEB 25,86	JAN 28,86	1300	1300	3	40.0	3	74100	2	1	U 3	G
MAR 25,86	FEB 25,86	1300	1300	3	70.0	2	74116	2	1	55	
APR 22,86	MAR 25,86	1300	1300	3	59.1	2	74126	2	1	72	
MAY 22,86	APR 22,86	1300	1000	1	74.0	3	74142	2	1	U 0	ACMF XZ
JUN 17,86	MAY 22,86	1300	1300	1	90.0	3	74158	2	1	78	CD Z
JUL 21,86	JUN 17,86	1300	1300	1	105.0	3	74180	2	1	52	A HMZ
AUG 13,86	JUL 21,86	1300	1300	1	35.0	3	74204	2	1	81	Z
SEP 10,86	AUG 13,86	1300	1300	1	205.0	3	74214	2	1	U 91	G
OCT 7,86	SEP 10,86	1300	1300	1	95.0	3	74238	2	1	167	
NOV 5,86	OCT 7,86	1300	1300	1	45.0	3	74252	2	1	116	N
DEC 2,86	NOV 5,86	1300	1300	3	24.5	3	74261	2	1	75	HCM
DEC 30,86	DEC 2,86	1400	900	3	63.4	2	74278	2	1	64	H

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	677.0	43.3	4.10	0.1140	3.85	0.89	0.32
FEB 25,86	JAN 28,86	50.0	7.9	5.15	0.0315	0.50	0.14	*****
MAR 25,86	FEB 25,86	1265.0	34.4	4.16	0.0862	3.35	0.68	0.43
APR 22,86	MAR 25,86	1385.0	30.1	4.35	0.0707	3.45	0.65	0.30
MAY 22,86	APR 22,86	20.0	*****	*****	*****	*****	*****	*****
JUN 17,86	MAY 22,86	2285.0	34.2	4.27	0.0789	3.75	0.55	0.20
JUL 21,86	JUN 17,86	1775.0	20.1	7.39	0.0200	3.45	0.49	0.21
AUG 13,86	JUL 21,86	926.0	46.8	4.05	0.1280	5.65	0.67	0.49
SEP 10,86	AUG 13,86	6100.0	28.4	4.28	0.0765	3.35	0.34	0.19
OCT 7,86	SEP 10,86	5180.0	25.4	4.31	0.0742	2.55	0.35	<T 0.10
NOV 5,86	OCT 7,86	1704.0	23.8	4.43	0.0659	3.00	0.48	0.13
DEC 2,86	NOV 5,86	600.0	52.5	4.86	0.3640	3.70	0.99	U 1.44
DEC 30,86	DEC 2,86	1330.0	19.0	4.99	0.0637	2.30	0.50	0.52

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PALMERSTON/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.33	0.78	0.070	0.040	0.165	0.620	0.008
FEB 25,86	JAN 28,86	0.22	*****	*****	*****	*****	LG 0.065	*****
MAR 25,86	FEB 25,86	0.21	0.54	0.055	0.025	0.070	0.490	0.008
APR 22,86	MAR 25,86	0.14	0.87	0.070	0.020	0.060	0.760	0.010
MAY 22,86	APR 22,86	*****	*****	*****	*****	*****	*****	*****
JUN 17,86	MAY 22,86	<T 0.05	0.67	0.045	<T 0.010	<T 0.015	0.645	0.006
JUL 21,86	JUN 17,86	0.21	U 2.08	0.075	U 0.330	0.070	U 1.570	U 0.181
AUG 13,86	JUL 21,86	0.18	0.59	0.105	0.040	0.035	0.540	<W 0.001
SEP 10,86	AUG 13,86	0.07	0.46	0.035	<T 0.020	0.020	0.410	<W 0.001
OCT 7,86	SEP 10,86	0.12	0.46	<T 0.020	<T 0.015	0.030	0.400	<W 0.002
NOV 5,86	OCT 7,86	0.08	0.83	0.025	0.055	<T 0.020	0.820	D 0.016
DEC 2,86	NOV 5,86	1.60	U 7.70	D 0.305	U 0.495	D 0.210	U 2.450	<T 0.008
DEC 30,86	DEC 2,86	0.26	0.91	0.095	0.075	0.085	D 0.490	<T 0.003

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.004	UG 0.0017	1DT 0.025	0.037	1DT 0.004	0.0006	0.052
FEB 25,86	JAN 28,86	*****	*****	*****	*****	*****	*****	*****
MAR 25,86	FEB 25,86	0.004	0.0002	0.009	0.035	0.005	< 0.0004	0.066
APR 22,86	MAR 25,86	0.004	0.0003	1DT 0.008	0.039	1DT 0.002	< 0.0004	0.041
MAY 22,86	APR 22,86	*****	*****	*****	*****	*****	*****	*****
JUN 17,86	MAY 22,86	0.002	< 0.0002	1DT 0.003	0.017	0.018	< 0.0004	0.029
JUL 21,86	JUN 17,86	0.004	0.0005	0.006	0.056	0.004	< 0.0004	0.055
AUG 13,86	JUL 21,86	0.004	< 0.0002	0.008	0.029	1DT 0.004	< 0.0004	0.024
SEP 10,86	AUG 13,86	0.001	B 0.0018	1DT 0.005	0.015	0.003	< 0.0004	0.014
OCT 7,86	SEP 10,86	< 0.001	< 0.0002	0.003	0.007	0.002	< 0.0004	1DT 0.007
NOV 5,86	OCT 7,86	0.001	< 0.0002	1DT 0.007	0.017	0.003	< 0.0004	0.015
DEC 2,86	NOV 5,86	0.018	U 0.0043	D 0.022	D 0.051	0.004	< 0.0004	U 6.360
DEC 30,86	DEC 2,86	0.005	0.0009	1DT 0.010	0.011	< 0.002	< 0.0004	B 0.430

ONTARIO MINISTRY OF THE ENVIRONMENT
 CUMULATIVE SAMPLING ANALYSIS RESULTS
 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PALMERSTON/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	1DT 0.0035	0.00036	0.0794
FEB 25,86	JAN 28,86	*****	*****	B 0.0071
MAR 25,86	FEB 25,86	0.0015	0.00014	0.0692
APR 22,86	MAR 25,86	1DT 0.0012	0.00008	0.0447
MAY 22,86	APR 22,86	*****	*****	*****
JUN 17,86	MAY 22,86	0.0055	0.00006	0.0537
JUL 21,86	JUN 17,86	0.0039	0.00004	U 0.0000
AUG 13,86	JUL 21,86	1DT 0.0007	0.00002	0.0891
SEP 10,86	AUG 13,86	< 0.0002	< 0.00002	0.0525
OCT 7,86	SEP 10,86	1DT 0.0003	0.00007	0.0490
NOV 5,86	OCT 7,86	< 0.0003	< 0.00002	0.0372
DEC 2,86	NOV 5,86	1DT 0.0015	0.00003	U 0.0138
DEC 30,86	DEC 2,86	1DT 0.0007	0.00026	UG 0.0102

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PORT STANLEY/CUMULATIVE PRECIP. #03

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	930	900	2	23.5	3	74073	2	1	72	
FEB 25,86	JAN 28,86	900	900	3	78.4	3	74095	2	1	67	
MAR 25,86	FEB 25,86	900	900	3	73.3	2	74111	2	1	81	
APR 22,86	MAR 25,86	900	900	3	79.4	2	74121	2	1	80	
MAY 20,86	APR 22,86	900	900	1	70.0	3	74137	2	1	82	AC
JUN 17,86	MAY 20,86	900	900	1	85.0	3	74153	2	1	94	C
JUL 15,86	JUN 17,86	900	1030	1	85.0	3	74175	2	1	90	M
AUG 12,86	JUL 15,86	1030	930	1	99.0	3	74199	2	1	91	
SEP 9,86	AUG 12,86	930	1030	1	17.0	3	74209	2	1	84	
OCT 7,86	SEP 9,86	1030	930	1	150.0	3	74234	2	1	90	
NOV 4,86	OCT 7,86	930	930	1	51.0	3	74248	2	1	90	
DEC 2,86	NOV 4,86	930	930	3	34.4	3	74258	2	1	160	N
DEC 30,86	DEC 2,86	930	900	3	85.4	2	74274	2	1	79	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	556.0	44.9	4.13	0.1140	3.65	1.14	0.76
FEB 25,86	JAN 28,86	1710.0	42.6	4.11	0.1180	3.30	0.86	0.36
MAR 25,86	FEB 25,86	1930.0	38.0	4.09	0.0936	3.60	0.78	0.51
APR 22,86	MAR 25,86	2087.0	46.8	4.05	0.1170	4.75	0.75	0.31
MAY 20,86	APR 22,86	1880.0	35.8	4.18	0.0927	4.15	0.58	0.37
JUN 17,86	MAY 20,86	2600.0	27.7	4.15	0.0881	3.20	0.39	0.18
JUL 15,86	JUN 17,86	2490.0	36.1	4.22	0.0877	3.80	0.51	0.24
AUG 12,86	JUL 15,86	2954.0	38.1	4.15	0.1000	3.70	0.54	0.27
SEP 9,86	AUG 12,86	465.0	25.3	4.59	0.0495	4.25	0.53	1.56
OCT 7,86	SEP 9,86	4415.0	28.8	4.26	0.0776	2.95	0.44	0.34
NOV 4,86	OCT 7,86	1493.0	33.4	4.21	0.0815	3.65	0.70	0.66
DEC 2,86	NOV 4,86	1790.0	25.4	4.31	0.0729	2.20	0.47	0.22
DEC 30,86	DEC 2,86	2191.0	25.5	4.33	0.0705	1.90	0.47	0.36

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PORT STANLEY/CUMULATIVE PRECIP.

#03

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.41	0.58	0.135	<T 0.015	0.150	0.460	<T 0.005
FEB 25,86	JAN 28,86	0.35	0.42	0.065	0.025	0.110	0.325	0.009
MAR 25,86	FEB 25,86	0.22	0.45	0.070	0.030	0.075	0.440	<W 0.001
APR 22,86	MAR 25,86	0.19	0.74	0.060	0.035	0.065	0.620	0.011
MAY 20,86	APR 22,86	0.19	0.66	0.060	0.110	0.045	0.545	0.040
JUN 17,86	MAY 20,86	0.08	0.29	0.025	<T 0.010	0.025	LG 0.250	<T 0.005
JUL 15,86	JUN 17,86	0.13	LG 0.24	0.055	0.025	0.025	0.320	<W 0.001
AUG 12,86	JUL 15,86	0.12	0.39	0.050	0.025	<T 0.020	0.340	<T 0.002
SEP 9,86	AUG 12,86	0.14	LG 0.24	0.065	<T 0.015	0.035	LG 0.200	<W 0.001
OCT 7,86	SEP 9,86	0.13	0.44	0.025	<T 0.010	0.030	0.360	<W 0.002
NOV 4,86	OCT 7,86	0.14	0.47	0.070	<T 0.020	<T 0.015	0.485	<T 0.004
DEC 2,86	NOV 4,86	0.17	0.26	0.040	<T 0.005	0.045	0.235	<T 0.003
DEC 30,86	DEC 2,86	0.13	0.23	<T 0.020	<T 0.015	<T 0.020	0.175	<W 0.002

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.006	0.0008	0.009	0.056	1DT 0.005	0.0004	0.102
FEB 25,86	JAN 28,86	0.006	0.0004	1DT 0.009	0.162	1DT 0.008	0.0009	0.177
MAR 25,86	FEB 25,86	0.004	UG 0.0040	0.006	0.051	1DT 0.005	0.0018	0.057
APR 22,86	MAR 25,86	0.004	< 0.0002	1DT 0.006	0.039	0.004	< 0.0004	0.037
MAY 20,86	APR 22,86	0.006	< 0.0002	0.008	0.059	UG 0.040	0.0004	0.056
JUN 17,86	MAY 20,86	0.002	< 0.0002	1DT 0.006	0.022	0.007	< 0.0004	0.035
JUL 15,86	JUN 17,86	0.003	< 0.0002	0.010	0.033	1DT 0.009	< 0.0004	0.031
AUG 12,86	JUL 15,86	0.003	< 0.0002	0.009	0.025	1DT 0.002	< 0.0004	0.024
SEP 9,86	AUG 12,86	0.003	< 0.0002	1DT 0.009	0.042	0.005	0.0004	0.083
OCT 7,86	SEP 9,86	< 0.001	0.0002	0.008	0.013	0.004	< 0.0004	0.008
NOV 4,86	OCT 7,86	0.003	< 0.0002	0.006	0.023	0.005	< 0.0004	0.030
DEC 2,86	NOV 4,86	0.002	0.0002	0.005	0.021	0.006	< 0.0004	0.021
DEC 30,86	DEC 2,86	< 0.001	< 0.0002	1DT 0.007	0.014	1DT 0.003	0.0004	0.022

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PORT STANLEY/CUMULATIVE PRECIP.

#03

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	1DT 0.0015	0.00025	0.0741
FEB 25,86	JAN 28,86	1DT 0.0011	0.00011	0.0776
MAR 25,86	FEB 25,86	0.0024	0.00010	0.0813
APR 22,86	MAR 25,86	1DT 0.0004	0.00008	0.0891
MAY 20,86	APR 22,86	1DT 0.0004	0.00005	0.0661
JUN 17,86	MAY 20,86	0.0034	0.00006	0.0708
JUL 15,86	JUN 17,86	< 0.0003	< 0.00002	0.0603
AUG 12,86	JUL 15,86	1DT 0.0003	0.00002	0.0708
SEP 9,86	AUG 12,86	1DT 0.0007	< 0.00002	0.0257
OCT 7,86	SEP 9,86	1DT 0.0003	0.00003	0.0550
NOV 4,86	OCT 7,86	1DT 0.0003	< 0.00002	0.0617
DEC 2,86	NOV 4,86	0.0017	0.00008	0.0490
DEC 30,86	DEC 2,86	0.0007	0.00002	0.0468

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SHALLOW LAKE/CUMULATIVE PRECIP.

#09

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	900	815	2	37.3	3	74077	2	1	74	
FEB 26,86	JAN 28,86	815	830	3	69.5	3	74099	2	1	54	
MAR 25,86	FEB 26,86	830	845	3	91.9	2	74115	2	1	59	
APR 22,86	MAR 25,86	845	800	3	83.5	2	74125	2	1	37	ABC N
MAY 20,86	APR 22,86	830	700	1	49.0	3	74141	2	1	95	
JUN 24,86	MAY 20,86	700	730	1	97.0	3	74157	2	1	89	AC Z
JUL 19,86	JUN 24,86	730	830	1	61.0	3	74179	2	1	98	Z
AUG 12,86	JUL 19,86	830	700	1	81.0	3	74203	2	1	84	Z
SEP 9,86	AUG 12,86	700	645	1	32.0	3	74213	2	1	84	
OCT 7,86	SEP 9,86	645	715	1	266.0	3	74237	2	1	60	
NOV 5,86	OCT 7,86	715	830	1	45.0	3	74251	2	1	102	
DEC 2,86	NOV 5,86	830	830	3	16.4	2	74270	2	1	127	N
DEC 31,86	DEC 2,86	830	1630	3	90.2	2	74277	2	1	61	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	900.0	39.4	4.19	0.0998	3.10	1.09	0.53
FEB 26,86	JAN 28,86	1220.0	25.0	4.31	0.0766	1.65	0.55	0.14
MAR 25,86	FEB 26,86	1786.0	30.3	4.23	0.0749	3.00	0.63	0.50
APR 22,86	MAR 25,86	1007.0	21.4	4.50	0.0594	2.60	0.40	0.22
MAY 20,86	APR 22,86	1525.0	23.5	4.54	0.0505	3.40	0.51	0.43
JUN 24,86	MAY 20,86	2815.0	31.2	4.28	0.0739	3.35	0.50	0.30
JUL 19,86	JUN 24,86	1950.0	22.2	4.51	0.0526	2.15	0.36	0.23
AUG 12,86	JUL 19,86	2216.0	41.5	4.11	0.1050	4.15	0.61	0.31
SEP 9,86	AUG 12,86	877.0	31.1	4.25	0.0805	3.50	0.49	0.26
OCT 7,86	SEP 9,86	5250.0	16.0	4.53	0.0489	1.45	0.24	0.08
NOV 5,86	OCT 7,86	1501.0	23.6	4.34	0.0664	2.25	0.48	0.16
DEC 2,86	NOV 5,86	680.0	20.8	4.60	0.0566	1.95	0.68	0.62
DEC 31,86	DEC 2,86	1800.0	22.0	4.35	0.0653	1.30	0.45	0.08

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SHALLOW LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.27	0.80	0.055	0.025	0.145	0.635	0.010
FEB 26,86	JAN 28,86	0.20	0.19	0.020	<T 0.010	0.070	0.175	0.006
MAR 25,86	FEB 26,86	0.20	0.43	0.060	0.025	0.095	0.400	<T 0.003
APR 22,86	MAR 25,86	0.10	D 1.76	0.050	0.060	0.055	0.570	B 0.140
MAY 20,86	APR 22,86	0.14	0.74	0.095	0.045	0.050	0.700	<T 0.005
JUN 24,86	MAY 20,86	0.07	0.57	0.065	0.030	<T 0.020	0.460	0.013
JUL 19,86	JUN 24,86	0.09	0.34	0.040	0.020	0.030	0.255	<T 0.004
AUG 12,86	JUL 19,86	0.16	0.44	0.065	0.020	<T 0.015	0.420	<W 0.001
SEP 9,86	AUG 12,86	0.10	0.51	0.060	0.030	0.025	0.465	<W 0.001
OCT 7,86	SEP 9,86	0.09	LG 0.23	<T 0.020	<T 0.015	<T 0.005	LG 0.185	<W 0.002
NOV 5,86	OCT 7,86	0.07	0.40	0.030	<T 0.010	<T 0.010	0.410	<T 0.004
DEC 2,86	NOV 5,86	0.24	0.36	0.145	<T 0.005	0.075	0.250	<T 0.005
DEC 31,86	DEC 2,86	0.11	1.20	<T 0.010	<T 0.010	0.035	0.160	<T 0.007

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.004	0.0013	0.007	0.029	1DT 0.004	0.0005	0.056
FEB 26,86	JAN 28,86	0.002	0.0003	1DT 0.004	0.035	1DT 0.006	0.0005	0.053
MAR 25,86	FEB 26,86	0.005	< 0.0002	0.005	0.040	0.003	< 0.0004	0.053
APR 22,86	MAR 25,86	*****	*****	*****	*****	*****	*****	*****
MAY 20,86	APR 22,86	0.005	< 0.0002	0.005	0.047	0.009	0.0004	0.057
JUN 24,86	MAY 20,86	0.006	< 0.0002	0.003	0.033	0.015	< 0.0004	0.051
JUL 19,86	JUN 24,86	0.003	< 0.0002	1DT 0.003	0.018	1DT 0.001	< 0.0004	0.029
AUG 12,86	JUL 19,86	0.003	< 0.0002	0.005	0.022	1DT 0.003	< 0.0004	0.020
SEP 9,86	AUG 12,86	0.003	< 0.0002	1DT 0.006	0.028	0.006	< 0.0004	0.036
OCT 7,86	SEP 9,86	< 0.001	< 0.0002	1DT 0.007	0.008	0.003	< 0.0004	1DT 0.009
NOV 5,86	OCT 7,86	0.001	< 0.0002	1DT 0.005	0.016	0.006	< 0.0004	0.017
DEC 2,86	NOV 5,86	0.002	< 0.0002	1DT 0.007	0.028	0.005	< 0.0004	0.028
DEC 31,86	DEC 2,86	< 0.001	0.0002	1DT 0.005	0.008	1DT 0.002	< 0.0004	0.013

ONTARIO MINISTRY OF THE ENVIRONMENT
 CUMULATIVE SAMPLING ANALYSIS RESULTS
 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SHALLOW LAKE/CUMULATIVE PRECIP.

#09

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 28,86	DEC 31,85	1DT 0.0016	0.00022	0.0646
FEB 26,86	JAN 28,86	0.0010	0.00006	0.0490
MAR 25,86	FEB 26,86	0.0005	0.00009	0.0589
APR 22,86	MAR 25,86	*****	*****	0.0316
MAY 20,86	APR 22,86	0.0047	0.00007	0.0288
JUN 24,86	MAY 20,86	0.0044	0.00007	0.0525
JUL 19,86	JUN 24,86	< 0.0003	< 0.00002	0.0309
AUG 12,86	JUL 19,86	1DT 0.0004	0.00004	0.0776
SEP 9,86	AUG 12,86	< 0.0004	< 0.00002	0.0562
OCT 7,86	SEP 9,86	1DT 0.0003	0.00007	D 0.0295
NOV 5,86	OCT 7,86	1DT 0.0006	< 0.00002	0.0457
DEC 2,86	NOV 5,86	0.0006	0.00004	0.0251
DEC 31,86	DEC 2,86	0.0010	< 0.00002	0.0447

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WATERLOO/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	830	1300	2	30.0	3	74080	2	1	75	
FEB 25,86	JAN 28,86	1300	815	3	52.9	3	74102	2	1	52	
MAR 25,86	FEB 25,86	815	830	3	70.6	2	74118	2	1	67	
APR 22,86	MAR 25,86	830	830	3	82.9	2	74128	2	1	72	
MAY 20,86	APR 22,86	830	1030	1	90.0	3	74144	2	1	85	D
JUN 17,86	MAY 20,86	1030	830	1	97.0	3	74160	2	1	89	CD
JUL 15,86	JUN 17,86	830	820	1	80.0	3	74182	2	1	U 61	M
AUG 12,86	JUL 15,86	820	830	1	75.0	3	74206	2	1	97	
SEP 9,86	AUG 12,86	830	1310	1	125.0	3	74216	2	1	U 88	G
OCT 7,86	SEP 9,86	1310	1250	1	135.0	3	74240	2	1	128	NH
NOV 4,86	OCT 7,86	1300	915	1	46.0	3	74255	2	1	102	
DEC 2,86	NOV 4,86	915	1100	3	39.8	3	74264	2	1	119	
DEC 30,86	DEC 2,86	1100	1400	3	88.0	2	74280	2	1	U 1	G HC

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	736.0	42.6	4.15	0.1100	3.60	0.96	0.37
FEB 25,86	JAN 28,86	910.0	38.9	4.11	0.1080	3.05	0.79	0.23
MAR 25,86	FEB 25,86	1550.0	36.5	4.12	0.0926	3.85	0.72	0.43
APR 22,86	MAR 25,86	1958.0	38.0	4.15	0.0972	4.05	0.71	0.24
MAY 20,86	APR 22,86	2500.0	19.3	4.53	0.0486	2.50	0.32	0.19
JUN 17,86	MAY 20,86	2820.0	48.0	U 7.55	U 0.0189	4.10	0.48	U 4.12
JUL 15,86	JUN 17,86	1585.0	38.4	4.26	0.0869	4.80	0.56	0.48
AUG 12,86	JUL 15,86	2380.0	44.4	4.10	0.1130	4.60	0.67	0.41
SEP 9,86	AUG 12,86	3575.0	44.5	4.04	0.1170	4.65	0.58	0.21
OCT 7,86	SEP 9,86	5650.0	21.0	UG 5.15	0.0300	3.05	0.35	0.66
NOV 4,86	OCT 7,86	1538.0	33.8	4.15	0.0873	3.40	0.58	0.21
DEC 2,86	NOV 4,86	1543.0	15.5	4.51	0.0486	1.75	0.43	0.30
DEC 30,86	DEC 2,86	36.0	U 5.2	U 5.74	U 0.0202	U 0.10	U 0.09	0.18

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REMOVAL DATE		EXPOSURE DATE		CHLORIDE	KJELDAHL AS N	MAGNESIM	POTASSIM	SODIUM	AMMONIUM AS N	PHOSPHOR
				MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L
JAN 28,86	DEC 31,85			0.47	0.86	0.070		0.025	0.195	0.012
FEB 25,86	JAN 28,86			0.43	*****	0.045	<T 0.010	0.130	0.430	*****
MAR 25,86	FEB 25,86			0.30	0.59	0.065		0.035	0.110	<T 0.005
APR 22,86	MAR 25,86			0.15	0.83	0.055		0.030	0.050	<T 0.004
MAY 20,86	APR 22,86			0.08	0.49	0.050		0.025	0.035	<T 0.005
JUN 17,86	MAY 20,86		U	0.17	1.65	U 0.280	U 0.265	0.055	*****	U 0.350
JUL 15,86	JUN 17,86			0.16	0.69	0.105		0.030	0.030	<W 0.001
AUG 12,86	JUL 15,86			0.17	0.49	0.070		0.055	0.045	<T 0.001
SEP 9,86	AUG 12,86			0.13	0.53	0.040	<T 0.015	0.030	0.475	<T 0.003
OCT 7,86	SEP 9,86	UG		1.29	1.28	0.080	UG 0.390	UG 0.805	0.590	0.068
NOV 4,86	OCT 7,86			0.12	0.55	0.035	<T 0.015	<T 0.010	0.560	<T 0.006
DEC 2,86	NOV 4,86			0.21	0.16	0.060	<T 0.025	0.065	0.150	<T 0.005
DEC 30,86	DEC 2,86			0.44	*****	0.045	0.095	0.250	<T 0.005	*****

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ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WATERLOO/CUMULATIVE PRECIP.

#07

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 28,86	DEC 31,85	1DT 0.0015	0.00041	0.0708
FEB 25,86	JAN 28,86	1DT 0.0012	0.00014	0.0776
MAR 25,86	FEB 25,86	1DT 0.0006	0.00010	0.0759
APR 22,86	MAR 25,86	1DT 0.0020	0.00008	0.0708
MAY 20,86	APR 22,86	1DT 0.0043	0.00011	0.0295
JUN 17,86	MAY 20,86	0.0063	< 0.00002	U 0.0000
JUL 15,86	JUN 17,86	< 0.0003	0.00010	0.0550
AUG 12,86	JUL 15,86	0.0004	0.00004	0.0794
SEP 9,86	AUG 12,86	1DT 0.0008	< 0.00002	0.0912
OCT 7,86	SEP 9,86	0.0046	UG 0.00062	UG 0.0071
NOV 4,86	OCT 7,86	1DT 0.0004	< 0.00002	0.0708
DEC 2,86	NOV 4,86	0.0011	0.00003	0.0309
DEC 30,86	DEC 2,86	*****	*****	U 0.0018

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILKESPORT/CUMULATIVE PRECIP.

#04

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	1000	1244	2	8.2	3	74075	2	1	U 157	M H
FEB 25,86	JAN 28,86	1244	1230	3	55.7	3	74097	2	1	55	
MAR 25,86	FEB 25,86	1230	1230	3	53.6	2	74113	2	1	76	
APR 22,86	MAR 25,86	1245	1245	3	73.2	2	74123	2	1	U 13	ACG
MAY 19,86	APR 22,86	1245	1300	1	55.0	3	74139	2	1	77	
JUN 17,86	MAY 19,86	1300	1300	1	95.0	3	74155	2	1	77	C
JUL 15,86	JUN 17,86	1300	1745	1	90.0	3	74177	2	1	86	A
AUG 12,86	JUL 15,86	1745	1400	1	67.0	3	74201	2	1	77	
SEP 9,86	AUG 12,86	1400	1130	1	23.0	3	74211	2	1	85	
OCT 7,86	SEP 9,86	1130	1100	1	176.0	3	74235	2	1	86	
NOV 5,86	OCT 7,86	1100	1000	1	46.0	3	74249	2	1	83	
DEC 2,86	NOV 5,86	1000	1100	3	48.9	3	74259	2	1	75	
DEC 30,86	DEC 2,86	1100	1700	3	102.4	2	74275	2	1	43	N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L		
JAN 28,86	DEC 31,85	420.0	35.0	UG	5.11	0.0414	4.95	1.50	D	2.22
FEB 25,86	JAN 28,86	1010.0	52.2		4.03	0.1380	4.55	1.11		0.63
MAR 25,86	FEB 25,86	1330.0	35.6		4.19	0.0794	3.95	0.78		0.73
APR 22,86	MAR 25,86	331.0	25.6		4.45	0.0599	4.00	0.56	D	0.71
MAY 19,86	APR 22,86	1385.0	20.2	B	5.11	LG 0.0279	4.05	0.46		1.12
JUN 17,86	MAY 19,86	2385.0	30.0		4.26	0.0774	3.75	0.45	D	0.60
JUL 15,86	JUN 17,86	2525.0	30.6		4.32	0.0736	3.65	0.50		0.29
AUG 12,86	JUL 15,86	1680.0	50.6		4.06	0.1220	6.65	0.85		0.83
SEP 9,86	AUG 12,86	637.0	39.4		4.17	0.0976	4.80	0.72	D	0.92
OCT 7,86	SEP 9,86	4916.0	30.6		4.20	0.0859	2.90	0.42		0.16
NOV 5,86	OCT 7,86	1246.0	31.0		4.28	0.0745	3.90	0.60		0.53
DEC 2,86	NOV 5,86	1192.0	22.6		4.37	0.0683	2.20	0.36		0.26
DEC 30,86	DEC 2,86	1452.0	26.7		4.37	0.0693	2.30	0.50		0.32

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILKESPORT/CUMULATIVE PRECIP.

#04

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.93	1.15	D 0.355	0.070	0.465	0.850	0.009
FEB 25,86	JAN 28,86	D 0.99	0.67	0.115	D 0.055	B 0.535	0.475	0.008
MAR 25,86	FEB 25,86	0.35	0.59	D 0.120	0.025	0.120	0.520	<T 0.005
APR 22,86	MAR 25,86	D 0.39	0.95	D 0.140	D 0.120	D 0.100	0.640	0.022
MAY 19,86	APR 22,86	0.19	0.66	D 0.205	0.075	0.070	0.555	0.021
JUN 17,86	MAY 19,86	0.10	0.48	D 0.135	0.035	0.045	0.410	0.007
JUL 15,86	JUN 17,86	0.13	0.69	0.065	0.040	0.040	0.490	0.016
AUG 12,86	JUL 15,86	0.36	0.70	0.155	U 0.480	0.035	0.595	0.025
SEP 9,86	AUG 12,86	0.21	0.46	0.125	0.050	D 0.050	0.415	<W 0.001
OCT 7,86	SEP 9,86	0.16	0.48	0.035	<T 0.010	0.040	0.330	<T 0.002
NOV 5,86	OCT 7,86	0.19	0.64	0.090	0.030	<T 0.015	0.660	<T 0.005
DEC 2,86	NOV 5,86	0.18	0.23	0.050	0.025	0.045	0.215	<T 0.002
DEC 30,86	DEC 2,86	0.34	0.83	0.055	0.090	0.240	0.275	<T 0.008

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.010	UG 0.0040	1DT 0.038	0.119	0.010	0.0014	0.132
FEB 25,86	JAN 28,86	0.007	0.0005	1DT 0.024	0.091	1DT 0.009	D 0.0027	0.110
MAR 25,86	FEB 25,86	0.004	0.0004	1DT 0.010	0.059	1DT 0.009	< 0.0004	0.073
APR 22,86	MAR 25,86	0.007	B 0.0110	1DT 0.015	D 0.126	1DT 0.006	D 0.0011	D 0.158
MAY 19,86	APR 22,86	0.007	0.0003	0.007	0.110	0.007	D 0.0008	0.069
JUN 17,86	MAY 19,86	0.004	< 0.0002	1DT 0.004	0.024	0.008	< 0.0004	0.027
JUL 15,86	JUN 17,86	0.005	0.0002	1DT 0.007	0.052	1DT 0.003	0.0004	0.047
AUG 12,86	JUL 15,86	0.007	< 0.0002	0.010	0.052	1DT 0.003	< 0.0004	0.051
SEP 9,86	AUG 12,86	D 0.007	0.0003	1DT 0.017	D 0.098	0.008	D 0.0005	D 0.118
OCT 7,86	SEP 9,86	< 0.001	0.0003	0.021	0.016	0.002	< 0.0004	0.014
NOV 5,86	OCT 7,86	0.004	< 0.0002	1DT 0.012	0.041	0.008	D 0.0005	0.041
DEC 2,86	NOV 5,86	0.002	0.0004	0.006	0.025	0.004	< 0.0004	0.027
DEC 30,86	DEC 2,86	0.002	0.0008	1DT 0.020	0.022	1DT 0.002	0.0004	0.038

ONTARIO MINISTRY OF THE ENVIRONMENT
 CUMULATIVE SAMPLING ANALYSIS RESULTS
 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILKESPORT/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 28,86	DEC 31,85	0.0046	0.00063	UG 0.0078
FEB 25,86	JAN 28,86	0.0027	0.00025	0.0933
MAR 25,86	FEB 25,86	0.0009	0.00018	0.0646
APR 22,86	MAR 25,86	0.0009	< 0.00002	0.0355
MAY 19,86	APR 22,86	0.0007	0.00009	B 0.0078
JUN 17,86	MAY 19,86	0.0021	0.00012	0.0550
JUL 15,86	JUN 17,86	0.0004	< 0.00002	0.0479
AUG 12,86	JUL 15,86	1DT 0.0004	0.00007	0.0871
SEP 9,86	AUG 12,86	1DT 0.0010	< 0.00002	0.0676
OCT 7,86	SEP 9,86	1DT 0.0004	0.00008	0.0631
NOV 5,86	OCT 7,86	1DT 0.0007	< 0.00002	0.0525
DEC 2,86	NOV 5,86	0.0018	0.00006	0.0427
DEC 30,86	DEC 2,86	D 0.0027	0.00051	0.0427

PART IV

CENTRAL REGION

CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CAMPBELLFORD/CUMULATIVE PRECIP. #13

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	1310	1740	3	61.0	2	24501	2	1	54	
FEB 25,86	JAN 28,86	1740	1730	3	46.0	2	24507	2	1	70	
MAR 26,86	FEB 25,86	1730	1830	3	60.0	2	24513	2	1	81	DQ
APR 23,86	MAR 26,86	1830	1715	1	56.0	2	24519	2	1	71	D
MAY 20,86	APR 23,86	1715	1640	1	75.5	9	24525	2	1	U 64	P
JUN 17,86	MAY 20,86	1640	1615	1	77.5	9	24531	2	1	I 50	D
JUL 15,86	JUN 17,86	1640	1015	1	64.3	9	24541	2	1	I 71	N
AUG 12,86	JUL 15,86	1015	1900	1	55.0	3	24545	2	1	85	A
SEP 9,86	AUG 12,86	1900	1615	1	45.0	3	24551	2	1	91	
OCT 7,86	SEP 9,86	1615	1800	1	150.0	3	24560	2	1	86	AC
NOV 4,86	OCT 7,86	1800	1900	1	49.4	9	24563	2	1	I 59	
DEC 2,86	NOV 4,86	1900	1630	3	29.0	2	24572	2	1	103	
DEC 30,86	DEC 2,86	1630	1625	3	73.0	2	24581	2	1	97	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAM MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	1088.0	21.3	4.41	0.0606	1.70	0.46	0.25
FEB 25,86	JAN 28,86	1051.0	D 52.2	3.93	0.1410	3.60	1.07	0.24
MAR 26,86	FEB 25,86	1583.0	31.8	4.26	0.0859	2.25	0.80	0.47
APR 23,86	MAR 26,86	1291.0	32.7	4.32	0.0736	3.90	0.71	0.49
MAY 20,86	APR 23,86	1573.0	26.5	4.33	0.0662	2.85	0.42	0.27
JUN 17,86	MAY 20,86	1260.0	35.5	4.19	0.0869	4.10	0.57	0.36
JUL 15,86	JUN 17,86	1486.0	23.3	4.42	0.0606	2.45	0.42	0.32
AUG 12,86	JUL 15,86	1524.0	UG 65.7	3.90	UG 0.1590	6.70	0.76	0.37
SEP 9,86	AUG 12,86	1335.0	D 55.9	D 3.92	B 0.1460	D 5.55	0.73	0.33
OCT 7,86	SEP 9,86	4217.0	27.0	4.24	0.0800	2.70	0.34	0.10
NOV 4,86	OCT 7,86	954.0	34.6	4.18	0.0920	3.05	0.66	0.26
DEC 2,86	NOV 4,86	971.0	17.9	4.53	0.0519	1.50	0.41	0.29
DEC 30,86	DEC 2,86	2320.0	14.8	4.55	0.0496	1.05	0.27	<T 0.10

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CAMPBELLFORD/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.35	0.22	0.025	<T 0.010	0.165	0.170	<T 0.004
FEB 25,86	JAN 28,86	0.30	0.41	0.020	0.030	0.115	0.330	<T 0.002
MAR 26,86	FEB 25,86	0.24	0.50	0.055	<T 0.015	0.105	0.290	0.011
APR 23,86	MAR 26,86	0.16	0.88	0.065	0.045	0.085	0.730	0.010
MAY 20,86	APR 23,86	0.07	0.40	0.040	0.030	0.040	0.375	0.013
JUN 17,86	MAY 20,86	0.10	0.59	0.065	0.035	<T 0.015	0.500	<T 0.003
JUL 15,86	JUN 17,86	0.10	0.31	0.050	0.030	<T 0.010	0.260	<T 0.001
AUG 12,86	JUL 15,86	0.16	0.59	0.040	0.025	0.025	0.520	<T 0.001
SEP 9,86	AUG 12,86	0.13	0.43	0.040	<T 0.010	0.025	0.410	<W 0.001
OCT 7,86	SEP 9,86	0.09	0.33	<T 0.020	<W 0.005	<W 0.005	0.240	<W 0.002
NOV 4,86	OCT 7,86	0.11	0.35	0.025	<T 0.010	<T 0.010	0.390	<T 0.005
DEC 2,86	NOV 4,86	0.17	0.14	0.025	<W 0.005	0.080	0.135	<T 0.008
DEC 30,86	DEC 2,86	0.08	0.17	<T 0.020	<T 0.020	0.040	0.105	<T 0.005

REMOVAL DATE	EXPOSURE DATE	MANGANESE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0003	0.007	0.028	1DT 0.004	0.0004	0.059
FEB 25,86	JAN 28,86	0.004	0.0005	0.007	0.037	1DT 0.006	< 0.0004	0.039
MAR 26,86	FEB 25,86	0.004	0.0031	1DT 0.004	0.029	0.004	< 0.0004	0.044
APR 23,86	MAR 26,86	0.005	0.0002	0.007	0.050	0.007	< 0.0004	0.040
MAY 20,86	APR 23,86	0.004	0.0010	1DT 0.003	0.035	0.008	< 0.0004	0.037
JUN 17,86	MAY 20,86	0.005	< 0.0002	0.002	0.020	1DT 0.003	< 0.0004	1DT 0.039
JUL 15,86	JUN 17,86	0.002	< 0.0002	1DT 0.008	0.027	1DT 0.002	< 0.0004	0.020
AUG 12,86	JUL 15,86	0.003	0.0003	1DT 0.005	0.021	1DT 0.004	< 0.0004	0.027
SEP 9,86	AUG 12,86	0.003	< 0.0002	1DT 0.008	0.030	0.006	< 0.0004	0.040
OCT 7,86	SEP 9,86	< 0.001	< 0.0002	D 0.006	0.007	0.002	< 0.0004	1DT 0.007
NOV 4,86	OCT 7,86	0.002	< 0.0002	1DT 0.008	0.020	0.005	0.0005	0.028
DEC 2,86	NOV 4,86	0.001	< 0.0002	1DT 0.005	0.022	1DT 0.004	< 0.0004	D 0.026
DEC 30,86	DEC 2,86	< 0.001	< 0.0002	0.002	0.010	0.001	0.0004	1DT 0.011

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CAMPBELLFORD/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	0.0008	0.00005	0.0389
FEB 25,86	JAN 28,86	0.0009	0.00011	0.1175
MAR 26,86	FEB 25,86	0.0023	0.00013	0.0550
APR 23,86	MAR 26,86	1DT 0.0009	0.00011	0.0479
MAY 20,86	APR 23,86	1DT 0.0023	< 0.00002	0.0468
JUN 17,86	MAY 20,86	0.0018	0.00002	0.0646
JUL 15,86	JUN 17,86	< 0.0003	< 0.00002	0.0380
AUG 12,86	JUL 15,86	1DT 0.0005	0.00007	0.1259
SEP 9,86	AUG 12,86	1DT 0.0011	< 0.00002	D 0.1202
OCT 7,86	SEP 9,86	1DT 0.0003	0.00004	0.0575
NOV 4,86	OCT 7,86	1DT 0.0007	< 0.00002	0.0661
DEC 2,86	NOV 4,86	< 0.0004	< 0.00002	0.0295
DEC 30,86	DEC 2,86	< 0.0003	< 0.00002	0.0282

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : COLDWATER/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD	OFFICE
JAN 22,86	JAN 3,86	1700	800	3	39.0	2	29517	2	1	U 50	G	Z
JAN 28,86	JAN 22,86	800	800	3	11.0	2	29518	2	1	20		NZ
FEB 25,86	JAN 28,86	800	800	3	43.0	2	29529	2	1	93	Q	
MAR 25,86	FEB 25,86	800	800	3	61.0	2	29530	2	1	67	A	
APR 22,86	MAR 25,86	800	800	3	91.0	2	29541	2	1	72	A	
MAY 20,86	APR 22,86	1600	800	1	115.0	3	29551	2	1	40		N
JUN 17,86	MAY 20,86	800	800	1	83.6	9	29560	2	1	U 69	AP	
JUL 15,86	JUN 17,86	800	700	1	60.0	3	29573	2	1	94	A	
AUG 12,86	JUL 15,86	700	2000	1	163.0	3	29585	2	1	87	Q	
SEP 9,86	AUG 12,86	2000	800	1	82.0	3	29589	2	1	65		
OCT 7,86	SEP 9,86	800	800	1	167.0	3	29604	2	1	U 108	PQ	H
NOV 4,86	OCT 7,86	800	730	3	40.0	3	29612	2	1	92	A	
DEC 2,86	NOV 4,86	800	715	3	35.0	2	29617	2	1	U 97	G	
DEC 30,86	DEC 2,86	715	800	3	92.0	2	29631	2	1	U 56	G	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 22,86	JAN 3,86	637.0	17.2	4.57	0.0527	1.05	0.28	LG 0.05
JAN 28,86	JAN 22,86	75.0	41.7	4.33	0.0875	4.15	1.28	1.11
FEB 25,86	JAN 28,86	1300.0	28.0	4.20	0.0807	1.70	0.63	0.23
MAR 25,86	FEB 25,86	1344.0	39.2	4.08	0.1030	3.20	0.93	0.63
APR 22,86	MAR 25,86	2145.0	18.2	4.76	0.0453	2.65	0.45	0.28
MAY 20,86	APR 22,86	1501.0	26.0	4.42	0.0610	2.95	0.52	0.31
JUN 17,86	MAY 20,86	1883.0	26.7	4.39	0.0575	3.15	0.52	0.40
JUL 15,86	JUN 17,86	1832.0	21.9	4.48	0.0555	2.50	0.39	0.29
AUG 12,86	JUL 15,86	4619.0	27.7	4.31	0.0721	2.90	0.33	0.16
SEP 9,86	AUG 12,86	1732.0	26.8	4.31	0.0724	3.00	0.40	0.25
OCT 7,86	SEP 9,86	5910.0	U 11.2	U 5.48	U 0.0317	2.10	0.28	0.23
NOV 4,86	OCT 7,86	1196.0	22.6	4.52	0.0558	2.55	0.51	0.14
DEC 2,86	NOV 4,86	1104.0	LG 6.1	UG 5.13	LG 0.0249	LG 0.50	LG 0.14	0.16
DEC 30,86	DEC 2,86	1681.0	11.8	4.71	0.0398	0.85	0.28	<T 0.08

ONTARIO MINISTRY OF THE ENVIRONMENT
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STATION NAME : COLDWATER/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 22,86	JAN 3,86	0.14	0.23	<T 0.010	<W 0.005	0.065	0.185	0.009
JAN 28,86	JAN 22,86	UG 0.73	*****	0.125	0.045	UG 0.400	0.810	*****
FEB 25,86	JAN 28,86	0.27	0.18	0.025	<T 0.010	0.115	0.125	0.007
MAR 25,86	FEB 25,86	0.26	0.44	0.055	0.045	0.105	0.375	<T 0.004
APR 22,86	MAR 25,86	0.12	0.91	0.040	0.060	0.070	0.690	UG 0.052
MAY 20,86	APR 22,86	0.12	0.61	0.055	0.060	0.020	0.510	0.006
JUN 17,86	MAY 20,86	0.08	0.58	0.075	0.035	<T 0.015	0.520	0.008
JUL 15,86	JUN 17,86	0.08	0.39	0.050	0.050	<T 0.020	0.350	<T 0.001
AUG 12,86	JUL 15,86	0.09	0.33	0.030	0.040	0.030	0.265	<T 0.002
SEP 9,86	AUG 12,86	<T 0.06	0.37	0.045	0.025	<T 0.005	0.350	<W 0.001
OCT 7,86	SEP 9,86	0.10	U 0.93	0.070	U 0.800	0.045	U 0.415	U 0.095
NOV 4,86	OCT 7,86	0.08	0.43	<T 0.025	0.075	0.030	0.710	0.025
DEC 2,86	NOV 4,86	0.06	<T 0.04	<T 0.015	<W 0.005	<W 0.005	0.085	0.011
DEC 30,86	DEC 2,86	0.13	*****	<T 0.015	<T 0.015	0.065	0.135	*****

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 22,86	JAN 3,86	0.001	< 0.0002	1DT 0.004	0.044	1DT 0.004	< 0.0004	1DT 0.066
JAN 28,86	JAN 22,86	*****	*****	*****	*****	*****	*****	*****
FEB 25,86	JAN 28,86	0.003	0.0003	1DT 0.005	0.049	1DT 0.006	0.0005	0.066
MAR 25,86	FEB 25,86	0.005	UG 0.0070	0.008	0.073	0.005	< 0.0004	0.101
APR 22,86	MAR 25,86	0.003	0.0004	1DT 0.003	0.026	0.003	< 0.0004	0.028
MAY 20,86	APR 22,86	0.004	< 0.0002	1DT 0.007	D 0.061	< 0.002	0.0015	0.065
JUN 17,86	MAY 20,86	0.006	< 0.0002	1DT 0.005	0.046	0.004	< 0.0004	0.047
JUL 15,86	JUN 17,86	0.003	< 0.0002	1DT 0.007	0.025	0.006	< 0.0004	0.029
AUG 12,86	JUL 15,86	0.002	< 0.0002	1DT 0.001	0.017	0.002	< 0.0004	0.015
SEP 9,86	AUG 12,86	0.002	< 0.0002	1DT 0.006	0.030	0.003	< 0.0004	0.031
OCT 7,86	SEP 9,86	0.008	< 0.0002	1DT 0.004	U 0.061	1DT 0.001	0.0004	0.063
NOV 4,86	OCT 7,86	< 0.001	< 0.0002	< 0.002	0.013	0.003	< 0.0004	0.025
DEC 2,86	NOV 4,86	< 0.001	< 0.0002	< 0.002	0.014	1DT 0.002	< 0.0004	0.018
DEC 30,86	DEC 2,86	*****	*****	*****	*****	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
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STATION NAME : COLDWATER/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 22,86	JAN 3,86	0.0008	0.00005	0.0269
JAN 28,86	JAN 22,86	*****	*****	0.0468
FEB 25,86	JAN 28,86	1DT 0.0005	0.00005	0.0631
MAR 25,86	FEB 25,86	0.0011	0.00013	0.0832
APR 22,86	MAR 25,86	D 0.0012	0.00011	0.0174
MAY 20,86	APR 22,86	1DT 0.0003	0.00009	0.0380
JUN 17,86	MAY 20,86	< 0.0003	< 0.00002	0.0407
JUL 15,86	JUN 17,86	< 0.0003	< 0.00002	0.0331
AUG 12,86	JUL 15,86	< 0.0002	< 0.00002	0.0490
SEP 9,86	AUG 12,86	1DT 0.0004	< 0.00002	0.0490
OCT 7,86	SEP 9,86	1DT 0.0011	0.00004	U 0.0033
NOV 4,86	OCT 7,86	1DT 0.0006	< 0.00002	0.0302
DEC 2,86	NOV 4,86	< 0.0004	< 0.00002	UG 0.0074
DEC 30,86	DEC 2,86	*****	*****	0.0195

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	1200	930	3	59.0	2	29514	2	1	84	
FEB 25,86	JAN 28,86	930	1220	3	40.0	2	29523	2	1	55	
MAR 25,86	FEB 25,86	1220	1000	3	79.0	2	29532	2	1	79	
APR 22,86	MAR 25,86	1000	940	3	58.2	2	29543	2	1	85	A
MAY 20,86	APR 22,86	940	850	1	53.0	3	29552	2	1	97	
JUN 17,86	MAY 20,86	850	930	1	100.0	3	29561	2	1	96	
JUL 15,86	JUN 17,86	930	900	1	53.0	3	29568	2	1	95	
AUG 12,86	JUL 15,86	900	930	1	202.0	3	29580	2	1	93	
SEP 9,86	AUG 12,86	930	930	1	65.0	3	29590	2	1	90	A
OCT 7,86	SEP 9,86	930	1000	1	168.0	3	29599	2	1	84	P
NOV 4,86	OCT 7,86	1000	1230	1	40.0	3	29608	2	1	107	
DEC 2,86	NOV 4,86	1230	1340	3	46.0	3	29614	2	1	71	
DEC 30,86	DEC 2,86	1340	1340	3	86.0	2	29624	2	1	69	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	1616.0	39.2	4.17	0.1040	2.50	0.83	0.11
FEB 25,86	JAN 28,86	724.0	29.4	4.22	0.0917	1.50	0.71	0.18
MAR 25,86	FEB 25,86	2039.0	33.4	4.21	0.0848	3.00	0.72	0.39
APR 22,86	MAR 25,86	1623.0	24.8	4.34	0.0769	3.30	0.53	0.52
MAY 20,86	APR 22,86	1683.0	18.3	4.70	0.0425	2.40	0.44	0.51
JUN 17,86	MAY 20,86	3138.0	20.4	4.45	0.0509	2.35	0.32	0.17
JUL 15,86	JUN 17,86	1640.0	29.3	4.29	0.0762	3.50	0.47	0.27
AUG 12,86	JUL 15,86	6120.0	15.9	4.59	0.0447	LG 1.45	0.23	0.11
SEP 9,86	AUG 12,86	1917.0	47.3	4.01	0.1250	5.20	0.59	0.31
OCT 7,86	SEP 9,86	4633.0	LG 12.4	4.60	0.0423	LG 1.35	LG 0.19	LG 0.05
NOV 4,86	OCT 7,86	1395.0	32.0	4.22	0.0857	2.70	0.61	0.14
DEC 2,86	NOV 4,86	1068.0	24.9	4.36	0.0723	1.75	0.63	0.28
DEC 30,86	DEC 2,86	1947.0	17.9	4.42	0.0571	1.05	0.42	<W 0.02

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.25	0.47	0.020	0.025	0.100	0.405	0.010
FEB 25,86	JAN 28,86	0.13	0.26	<T 0.010	0.020	0.065	0.190	0.009
MAR 25,86	FEB 25,86	0.20	0.43	0.050	0.025	0.100	0.380	0.009
APR 22,86	MAR 25,86	0.11	0.58	0.065	0.025	0.065	0.445	0.013
MAY 20,86	APR 22,86	0.10	0.44	0.105	0.050	<T 0.015	0.340	0.007
JUN 17,86	MAY 20,86	<T 0.06	0.47	0.030	0.020	<T 0.010	0.395	0.006
JUL 15,86	JUN 17,86	0.10	0.50	0.055	0.030	<T 0.015	0.475	<T 0.001
AUG 12,86	JUL 15,86	<T 0.06	0.18	0.015	<T 0.010	<T 0.005	0.160	<W 0.001
SEP 9,86	AUG 12,86	0.11	0.52	0.050	0.030	<T 0.005	0.485	<W 0.001
OCT 7,86	SEP 9,86	<T 0.05	LG 0.13	0.015	<T 0.005	<T 0.010	LG 0.110	<T 0.001
NOV 4,86	OCT 7,86	0.07	0.36	<T 0.020	0.025	<T 0.015	0.405	<T 0.007
DEC 2,86	NOV 4,86	0.17	0.26	0.050	<T 0.005	<T 0.015	0.265	<T 0.009
DEC 30,86	DEC 2,86	0.11	0.15	<T 0.015	<W 0.005	0.040	0.135	<T 0.006

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0010	1DT 0.006	0.038	0.004	< 0.0004	1DT 0.036
FEB 25,86	JAN 28,86	0.003	UG 0.0026	1DT 0.002	0.033	1DT 0.003	< 0.0004	0.055
MAR 25,86	FEB 25,86	0.005	0.0012	0.004	0.061	0.004	< 0.0004	0.091
APR 22,86	MAR 25,86	0.004	0.0003	1DT 0.006	0.038	1DT 0.002	< 0.0004	0.040
MAY 20,86	APR 22,86	0.006	< 0.0002	1DT 0.005	0.088	< 0.002	< 0.0004	D 0.100
JUN 17,86	MAY 20,86	0.002	< 0.0002	1DT 0.017	0.029	D 0.005	< 0.0004	0.023
JUL 15,86	JUN 17,86	0.003	< 0.0002	0.011	0.084	1DT 0.004	< 0.0004	0.030
AUG 12,86	JUL 15,86	0.001	< 0.0002	0.004	0.010	0.001	< 0.0004	0.010
SEP 9,86	AUG 12,86	0.003	< 0.0002	1DT 0.007	0.029	0.005	< 0.0004	0.037
OCT 7,86	SEP 9,86	< 0.001	< 0.0002	1DT 0.002	0.028	1DT 0.001	D 0.0006	1DT 0.008
NOV 4,86	OCT 7,86	0.001	< 0.0002	1DT 0.006	0.009	1DT 0.004	< 0.0004	0.024
DEC 2,86	NOV 4,86	0.003	< 0.0002	1DT 0.006	0.025	0.003	0.0005	0.024
DEC 30,86	DEC 2,86	< 0.001	< 0.0002	1DT 0.004	0.008	1DT 0.002	< 0.0004	0.012

ONTARIO MINISTRY OF THE ENVIRONMENT
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 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	1DT 0.0012	0.00010	0.0676
FEB 25,86	JAN 28,86	1DT 0.0008	0.00007	0.0603
MAR 25,86	FEB 25,86	0.0008	0.00013	0.0617
APR 22,86	MAR 25,86	1DT 0.0009	0.00010	0.0457
MAY 20,86	APR 22,86	< 0.0003	0.00004	0.0200
JUN 17,86	MAY 20,86	< 0.0003	< 0.00002	0.0355
JUL 15,86	JUN 17,86	< 0.0003	< 0.00002	0.0513
AUG 12,86	JUL 15,86	1DT 0.0003	< 0.00002	0.0257
SEP 9,86	AUG 12,86	< 0.0003	< 0.00002	0.0977
OCT 7,86	SEP 9,86	1DT 0.0003	< 0.00002	0.0251
NOV 4,86	OCT 7,86	< 0.0003	< 0.00002	0.0603
DEC 2,86	NOV 4,86	< 0.0004	< 0.00002	0.0437
DEC 30,86	DEC 2,86	1DT 0.0004	< 0.00002	0.0380

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : UXBRIDGE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	JAN 7,86	1125	800	2	38.0	2	40324	2	1	U 38	G Z
FEB 25,86	JAN 28,86	800	1220	3	41.5	2	40330	2	1	88	C
MAR 25,86	FEB 25,86	1220	1100	3	51.2	2	40332	2	1	89	
APR 22,86	MAR 25,86	1100	1055	3	72.4	2	40336	2	1	78	HM
MAY 21,86	APR 22,86	1055	1230	1	74.5	3	40339	2	1	U 93	GDE
JUN 17,86	MAY 21,86	1230	1130	1	67.5	3	40344	2	1	77	
JUL 16,86	JUN 17,86	1130	1100	1	82.0	3	40347	2	1	80	
AUG 14,86	JUL 16,86	1100	1100	1	131.0	3	40351	2	1	63	A
SEP 11,86	AUG 14,86	1100	1130	1	113.0	3	40354	2	1	86	B
OCT 2,86	SEP 11,86	1130	1600	1	124.0	3	40357	2	1	***	KEI Z
NOV 17,86	OCT 2,86	1600	1130	1	57.0	2	40460	2	1	***	E Z
DEC 4,86	NOV 17,86	1130	1115	3	37.4	2	40520	2	1	80	Z
DEC 30,86	DEC 4,86	1115	1045	3	47.6	2	40524	2	1	81	Z

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	JAN 7,86	477.0	18.4	4.74	0.0406	1.85	0.42	0.42
FEB 25,86	JAN 28,86	1186.0	26.6	4.31	0.0878	2.30	0.72	D 0.58
MAR 25,86	FEB 25,86	1486.0	33.7	4.19	0.0889	2.70	0.91	0.69
APR 22,86	MAR 25,86	1840.0	22.9	4.48	0.0556	2.85	0.52	0.83
MAY 21,86	APR 22,86	2257.0	*****	*****	*****	*****	*****	*****
JUN 17,86	MAY 21,86	1688.0	27.9	4.31	0.0780	3.00	0.41	0.49
JUL 16,86	JUN 17,86	2136.0	D 29.1	4.39	0.0628	D 3.75	0.56	0.49
AUG 14,86	JUL 16,86	2682.0	58.4	4.01	UG 0.1410	6.30	0.88	0.83
SEP 11,86	AUG 14,86	3182.0	27.7	4.32	0.0757	2.80	0.40	0.23
OCT 2,86	SEP 11,86	*****	*****	*****	*****	*****	*****	*****
NOV 17,86	OCT 2,86	*****	*****	*****	*****	*****	*****	*****
DEC 4,86	NOV 17,86	980.0	12.9	4.59	0.0382	1.10	0.33	0.36
DEC 30,86	DEC 4,86	1253.0	18.5	4.53	0.0615	1.55	0.47	0.22

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : UXBRIDGE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	JAN 7,86	UG 0.58	0.61	0.045	0.075	0.330	0.260	0.033
FEB 25,86	JAN 28,86	0.53	0.52	0.045	<W 0.005	UG 0.395	0.270	UG 0.064
MAR 25,86	FEB 25,86	0.33	0.46	0.060	0.025	D 0.150	0.370	0.007
APR 22,86	MAR 25,86	0.12	0.63	0.075	0.030	0.050	0.550	0.006
MAY 21,86	APR 22,86	*****	*****	*****	*****	*****	*****	*****
JUN 17,86	MAY 21,86	0.08	0.46	0.055	0.020	<T 0.015	0.350	0.012
JUL 16,86	JUN 17,86	D 0.21	D 0.69	0.080	0.085	D 0.095	0.525	<T 0.004
AUG 14,86	JUL 16,86	0.18	0.66	0.105	0.035	D 0.025	0.590	<T 0.003
SEP 11,86	AUG 14,86	0.08	0.30	0.030	D 0.175	<T 0.010	0.260	<T 0.001
OCT 2,86	SEP 11,86	*****	*****	*****	*****	*****	*****	*****
NOV 17,86	OCT 2,86	*****	*****	*****	*****	*****	*****	*****
DEC 4,86	NOV 17,86	0.18	0.17	0.030	<W 0.005	0.055	0.075	0.014
DEC 30,86	DEC 4,86	0.30	D 0.50	0.030	0.035	0.130	0.260	<T 0.013

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	JAN 7,86	0.005	0.0015	0.012	0.110	1DT 0.005	0.0006	0.097
FEB 25,86	JAN 28,86	0.009	B 0.0046	0.010	UG 0.234	1DT 0.009	< 0.0004	UG 0.302
MAR 25,86	FEB 25,86	0.005	0.0009	0.008	0.071	1DT 0.006	0.0007	0.080
APR 22,86	MAR 25,86	0.003	0.0003	0.006	0.038	0.001	< 0.0004	0.030
MAY 21,86	APR 22,86	*****	*****	*****	*****	*****	*****	*****
JUN 17,86	MAY 21,86	0.004	< 0.0002	0.008	0.034	0.004	< 0.0004	0.040
JUL 16,86	JUN 17,86	0.005	0.0002	D 0.020	0.031	< 0.001	< 0.0004	0.032
AUG 14,86	JUL 16,86	0.006	0.0005	D 0.016	D 0.059	0.008	< 0.0004	0.032
SEP 11,86	AUG 14,86	0.002	D 0.0006	0.004	0.018	1DT 0.006	< 0.0004	0.013
OCT 2,86	SEP 11,86	*****	*****	*****	*****	*****	*****	*****
NOV 17,86	OCT 2,86	*****	*****	*****	*****	*****	*****	*****
DEC 4,86	NOV 17,86	0.002	0.0006	1DT 0.005	0.030	0.004	< 0.0004	0.021
DEC 30,86	DEC 4,86	0.002	0.0002	0.003	0.018	0.005	< 0.0004	D 0.094

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : UXBRIDGE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	JAN 7,86	UG 0.0072	0.00023	0.0182
FEB 25,86	JAN 28,86	1DT 0.0037	0.00020	0.0490
MAR 25,86	FEB 25,86	1DT 0.0013	0.00010	0.0646
APR 22,86	MAR 25,86	0.0009	0.00009	0.0331
MAY 21,86	APR 22,86	*****	*****	*****
JUN 17,86	MAY 21,86	1DT 0.0003	D 0.00005	0.0490
JUL 16,86	JUN 17,86	D 0.0025	0.00010	0.0407
AUG 14,86	JUL 16,86	1DT 0.0006	B 0.00044	0.0977
SEP 11,86	AUG 14,86	1DT 0.0003	D 0.00003	0.0479
OCT 2,86	SEP 11,86	*****	*****	*****
NOV 17,86	OCT 2,86	*****	*****	*****
DEC 4,86	NOV 17,86	< 0.0004	< 0.00002	0.0257
DEC 30,86	DEC 4,86	1DT 0.0007	B 0.00091	0.0295

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILBERFORCE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	JAN 3,86	1440	1745	3	47.0	2	29513	2	1	U 62	FJ Z
FEB 25,86	JAN 28,86	1745	1000	3	29.0	2	29522	2	1	90	
MAR 25,86	FEB 25,86	1000	1240	3	91.0	2	29531	2	1	80	
APR 22,86	MAR 25,86	1240	1300	3	57.0	3	29542	2	1	61	AQ M
MAY 20,86	APR 22,86	1300	1250	1	76.0	3	29550	2	1	83	A
JUN 17,86	MAY 20,86	1250	1200	1	140.0	3	29559	2	1	U 81	AJ
JUL 15,86	JUN 17,86	1200	1520	1	56.0	3	29575	2	1	91	
AUG 12,86	JUL 15,86	1520	1445	1	101.0	3	29584	2	1	91	
SEP 10,86	AUG 12,86	1445	1015	1	61.0	3	29588	2	1	85	
OCT 8,86	SEP 10,86	1015	1030	1	160.0	3	29605	2	1	U 112	P
NOV 4,86	OCT 8,86	1030	1015	1	42.0	3	29611	2	1	69	
DEC 2,86	NOV 4,86	1015	1030	3	48.0	2	29613	2	1	66	
DEC 30,86	DEC 2,86	1030	1020	3	84.0	2	29623	2	1	71	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	JAN 3,86	952.0	42.2	4.13	UG 0.1170	2.90	0.86	0.12
FEB 25,86	JAN 28,86	848.0	33.5	4.17	0.1010	1.95	0.77	0.24
MAR 25,86	FEB 25,86	2393.0	31.1	4.21	0.0826	2.75	0.60	0.26
APR 22,86	MAR 25,86	1129.0	26.7	U 6.98	U 0.0300	4.25	0.71	0.56
MAY 20,86	APR 22,86	2060.0	17.6	4.61	0.0455	1.95	0.30	0.23
JUN 17,86	MAY 20,86	3688.0	18.3	UG 4.96	0.0327	2.80	0.35	0.20
JUL 15,86	JUN 17,86	1658.0	29.1	4.32	0.0729	3.35	0.44	0.29
AUG 12,86	JUL 15,86	3002.0	33.8	4.19	0.0899	3.45	0.36	0.11
SEP 10,86	AUG 12,86	1688.0	49.9	3.97	0.1320	5.05	0.64	0.27
OCT 8,86	SEP 10,86	5845.0	LG 14.7	4.49	0.0505	LG 1.60	LG 0.20	0.08
NOV 4,86	OCT 8,86	954.0	33.8	4.18	0.0901	3.05	0.61	0.20
DEC 2,86	NOV 4,86	1035.0	26.7	4.31	0.0785	1.75	0.65	0.23
DEC 30,86	DEC 2,86	1951.0	13.4	4.61	LG 0.0441	0.75	0.28	<T 0.08

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILBERFORCE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	JAN 3,86	0.37	0.52	0.025	0.045	0.160	0.450	0.013
FEB 25,86	JAN 28,86	0.14	0.26	0.020	0.020	0.070	0.215	0.006
MAR 25,86	FEB 25,86	0.18	0.39	0.035	0.020	0.085	0.340	<T 0.001
APR 22,86	MAR 25,86	0.28	U 5.25	0.080	U 0.590	0.105	U 2.700	U 0.470
MAY 20,86	APR 22,86	0.11	0.48	0.050	0.040	0.035	0.245	0.008
JUN 17,86	MAY 20,86	0.09	1.04	0.050	0.200	<T 0.020	0.760	0.068
JUL 15,86	JUN 17,86	0.09	0.49	0.050	0.030	<T 0.015	0.465	0.001
AUG 12,86	JUL 15,86	0.07	0.34	<T 0.010	0.020	<T 0.005	0.310	<W 0.001
SEP 10,86	AUG 12,86	0.12	0.45	0.050	0.025	<T 0.015	0.430	<W 0.001
OCT 8,86	SEP 10,86	<T 0.04	0.19	<T 0.010	<T 0.005	<T 0.010	LG 0.140	<W 0.001
NOV 4,86	OCT 8,86	0.10	0.24	0.025	<T 0.020	0.025	0.370	<T 0.002
DEC 2,86	NOV 4,86	0.20	0.22	0.025	<T 0.005	0.055	0.245	<T 0.006
DEC 30,86	DEC 2,86	0.08	0.11	<T 0.005	<W 0.005	0.045	0.075	<T 0.009

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	JAN 3,86	0.002	0.0008	1DT 0.005	0.037	0.006	< 0.0004	1DT 0.067
FEB 25,86	JAN 28,86	0.003	0.0010	1DT 0.003	0.033	1DT 0.004	D 0.0005	0.085
MAR 25,86	FEB 25,86	0.004	0.0002	1DT 0.006	0.046	0.005	< 0.0004	0.070
APR 22,86	MAR 25,86	0.005	0.0010	1DT 0.010	0.066	0.006	U 0.0008	U 0.296
MAY 20,86	APR 22,86	0.002	< 0.0002	1DT 0.004	0.035	< 0.001	B 0.0037	0.041
JUN 17,86	MAY 20,86	0.003	< 0.0002	1DT 0.006	0.021	0.003	< 0.0004	0.023
JUL 15,86	JUN 17,86	0.003	< 0.0002	0.006	0.029	0.004	< 0.0004	0.026
AUG 12,86	JUL 15,86	0.001	< 0.0002	1DT 0.002	0.012	1DT 0.001	< 0.0004	0.014
SEP 10,86	AUG 12,86	0.003	< 0.0002	1DT 0.007	0.031	0.004	< 0.0004	0.038
OCT 8,86	SEP 10,86	< 0.001	< 0.0002	1DT 0.002	0.012	1DT 0.001	< 0.0004	0.012
NOV 4,86	OCT 8,86	0.002	< 0.0002	1DT 0.004	0.020	1DT 0.005	< 0.0004	D 0.035
DEC 2,86	NOV 4,86	0.002	< 0.0002	1DT 0.007	0.023	1DT 0.003	0.0005	0.026
DEC 30,86	DEC 2,86	< 0.001	< 0.0002	< 0.002	0.008	1DT 0.002	< 0.0004	1DT 0.014

ONTARIO MINISTRY OF THE ENVIRONMENT
 CUMULATIVE SAMPLING ANALYSIS RESULTS
 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILBERFORCE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 28,86	JAN 3,86	0.0019	0.00012	0.0741
FEB 25,86	JAN 28,86	1DT 0.0010	0.00011	0.0676
MAR 25,86	FEB 25,86	0.0012	0.00012	0.0617
APR 22,86	MAR 25,86	0.0031	0.00019	U 0.0001
MAY 20,86	APR 22,86	0.0005	0.00007	0.0245
JUN 17,86	MAY 20,86	1DT 0.0005	< 0.00002	UG 0.0110
JUL 15,86	JUN 17,86	0.0009	0.00008	0.0479
AUG 12,86	JUL 15,86	1DT 0.0007	< 0.00002	0.0646
SEP 10,86	AUG 12,86	1DT 0.0014	< 0.00002	0.1072
OCT 8,86	SEP 10,86	< 0.0002	< 0.00002	0.0324
NOV 4,86	OCT 8,86	1DT 0.0008	B 0.00133	0.0661
DEC 2,86	NOV 4,86	< 0.0004	< 0.00002	0.0490
DEC 30,86	DEC 2,86	0.0015	< 0.00002	0.0245

PART V

SOUTHEASTERN REGION

CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CLOYNE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	755	1650	3	45.0	2	24506	2	1	85	
FEB 25,86	JAN 28,86	1650	1650	3	50.0	2	24512	2	1	***	E
MAR 25,86	FEB 25,86	1650	1730	3	67.0	2	24518	2	1	92	Q
APR 22,86	MAR 25,86	1730	720	1	39.0	2	24524	2	1	***	GE
MAY 20,86	APR 22,86	720	1730	1	70.0	3	24530	2	1	92	
JUN 17,86	MAY 20,86	1730	1810	1	130.0	3	24534	2	1	74	DC
JUL 15,86	JUN 17,86	1810	1800	1	70.0	3	24542	2	1	95	CD
AUG 12,86	JUL 15,86	1800	1730	1	105.0	3	24547	2	1	105	
SEP 9,86	AUG 12,86	1730	1900	1	125.0	3	24554	2	1	82	C
OCT 7,86	SEP 9,86	1900	1915	1	142.8	9	24562	2	1	U 76	P
NOV 4,86	OCT 7,86	1915	1640	1	67.9	9	24568	2	1	U 21	PGA
DEC 2,86	NOV 4,86	1640	530	1	70.0	2	24577	2	1	97	
DEC 30,86	DEC 2,86	530	604	3	58.0	2	24578	2	1	104	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	1250.0	24.7	4.28	0.0685	1.45	0.55	0.15
FEB 25,86	JAN 28,86	*****	*****	*****	*****	*****	*****	*****
MAR 25,86	FEB 25,86	2013.0	31.8	4.27	0.0857	2.70	0.59	0.18
APR 22,86	MAR 25,86	*****	*****	*****	*****	*****	*****	*****
MAY 20,86	APR 22,86	2107.0	23.9	4.39	0.0634	2.75	0.40	0.33
JUN 17,86	MAY 20,86	3128.0	18.9	4.52	0.0448	2.20	0.33	0.27
JUL 15,86	JUN 17,86	2178.0	22.1	4.40	0.0624	2.55	0.40	0.22
AUG 12,86	JUL 15,86	3595.0	38.1	4.17	0.0973	3.90	0.51	0.26
SEP 9,86	AUG 12,86	3352.0	26.2	4.28	0.0723	2.85	0.26	LG 0.06
OCT 7,86	SEP 9,86	3541.0	26.0	4.32	0.0693	3.00	0.30	0.12
NOV 4,86	OCT 7,86	472.0	15.2	4.62	0.0452	LG 1.40	0.31	0.18
DEC 2,86	NOV 4,86	2216.0	23.0	4.35	0.0670	1.90	0.51	0.26
DEC 30,86	DEC 2,86	1972.0	13.0	4.63	0.0467	1.05	0.25	0.12

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CLOYNE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.29	0.35	0.015	<T 0.015	0.110	0.140	0.013
FEB 25,86	JAN 28,86	*****	*****	*****	*****	*****	*****	*****
MAR 25,86	FEB 25,86	0.18	0.42	D 0.025	0.025	0.095	0.350	0.009
APR 22,86	MAR 25,86	*****	*****	*****	*****	*****	*****	*****
MAY 20,86	APR 22,86	0.09	0.38	0.065	0.040	0.040	0.310	0.008
JUN 17,86	MAY 20,86	<T 0.06	0.36	0.040	0.040	<T 0.015	0.280	<T 0.003
JUL 15,86	JUN 17,86	0.10	0.36	0.040	0.035	<T 0.020	0.310	<T 0.001
AUG 12,86	JUL 15,86	0.14	0.39	0.055	0.040	0.045	0.355	<T 0.002
SEP 9,86	AUG 12,86	<T 0.05	0.34	0.015	0.025	<T 0.015	0.255	<T 0.003
OCT 7,86	SEP 9,86	0.07	0.34	<T 0.015	0.025	<W 0.005	0.360	0.012
NOV 4,86	OCT 7,86	0.14	0.35	<T 0.015	0.085	0.075	0.215	0.036
DEC 2,86	NOV 4,86	0.16	0.21	0.035	0.040	0.055	0.160	<T 0.002
DEC 30,86	DEC 2,86	0.17	0.18	<T 0.010	<T 0.020	0.075	0.085	<T 0.007

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0004	1DT 0.006	0.050	1DT 0.004	0.0007	0.035
FEB 25,86	JAN 28,86	*****	*****	*****	*****	*****	*****	*****
MAR 25,86	FEB 25,86	0.003	0.0003	1DT 0.004	0.025	0.004	0.0005	0.029
APR 22,86	MAR 25,86	*****	*****	*****	*****	*****	*****	*****
MAY 20,86	APR 22,86	0.005	< 0.0002	1DT 0.004	0.035	0.005	0.0005	0.043
JUN 17,86	MAY 20,86	0.003	< 0.0002	1DT 0.004	0.015	0.003	< 0.0004	0.019
JUL 15,86	JUN 17,86	0.002	< 0.0002	1DT 0.006	0.029	1DT 0.003	< 0.0004	0.020
AUG 12,86	JUL 15,86	0.003	0.0003	1DT 0.004	0.016	0.003	< 0.0004	0.020
SEP 9,86	AUG 12,86	0.001	< 0.0002	1DT 0.008	0.017	0.002	< 0.0004	0.013
OCT 7,86	SEP 9,86	0.001	< 0.0002	0.004	0.008	0.001	< 0.0004	0.011
NOV 4,86	OCT 7,86	0.014	< 0.0002	1DT 0.006	0.028	1DT 0.002	< 0.0004	0.029
DEC 2,86	NOV 4,86	0.002	< 0.0002	0.006	0.013	0.001	< 0.0004	0.018
DEC 30,86	DEC 2,86	0.001	0.0003	1DT 0.004	0.013	1DT 0.002	0.0004	0.014

ONTARIO MINISTRY OF THE ENVIRONMENT
 CUMULATIVE SAMPLING ANALYSIS RESULTS
 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CLOYNE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	0.0006	0.00006	0.0525
FEB 25,86	JAN 28,86	*****	*****	*****
MAR 25,86	FEB 25,86	0.0023	0.00012	0.0537
APR 22,86	MAR 25,86	*****	*****	*****
MAY 20,86	APR 22,86	0.0021	0.00006	0.0407
JUN 17,86	MAY 20,86	1DT 0.0014	0.00002	0.0302
JUL 15,86	JUN 17,86	< 0.0003	0.00005	0.0398
AUG 12,86	JUL 15,86	D 0.0033	0.00009	0.0676
SEP 9,86	AUG 12,86	1DT 0.0011	< 0.00002	0.0525
OCT 7,86	SEP 9,86	< 0.0003	< 0.00002	0.0479
NOV 4,86	OCT 7,86	1DT 0.0020	< 0.00002	0.0240
DEC 2,86	NOV 4,86	1DT 0.0013	0.00006	0.0447
DEC 30,86	DEC 2,86	1DT 0.0016	0.00006	0.0234

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DALHOUSIE MILLS/CUMULATIVE PRECIP. #16

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	800	800	3	66.0	2	24503	2	1	61	
FEB 25,86	JAN 28,86	800	800	3	30.0	2	24509	2	1	48	N
MAR 25,86	FEB 25,86	800	800	3	48.0	2	24515	2	1	U 37	CDG
APR 22,86	MAR 25,86	800	1800	1	26.0	2	24521	2	1	98	ABCD
MAY 20,86	APR 22,86	1800	800	1	51.0	3	24527	2	1	102	BCD H
JUN 17,86	MAY 20,86	800	800	1	76.0	3	24536	2	1	79	CD HM
JUL 15,86	JUN 17,86	900	900	1	85.0	3	24540	2	1	107	CDA
AUG 12,86	JUL 15,86	900	800	1	85.0	3	24546	2	1	159	N
SEP 9,86	AUG 12,86	900	800	1	75.0	3	24555	2	1	70	C
OCT 7,86	SEP 9,86	900	800	1	141.0	3	24559	2	1	94	ACD
NOV 4,86	OCT 7,86	800	800	1	39.0	3	24565	2	1	125	N
DEC 2,86	NOV 4,86	900	800	3	48.3	9	24576	2	1	U 82	G
DEC 30,86	DEC 2,86	900	800	3	78.0	2	24580	2	1	U 80	G

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	1316.0	13.9	4.65	LG 0.0406	1.05	0.30	0.07
FEB 25,86	JAN 28,86	471.0	24.1	4.33	0.0673	1.75	0.48	0.16
MAR 25,86	FEB 25,86	589.0	D 47.7	4.08	B 0.1240	D 4.20	1.02	0.55
APR 22,86	MAR 25,86	830.0	35.7	4.33	0.0824	4.90	0.77	0.64
MAY 20,86	APR 22,86	1697.0	26.6	U 5.03	0.0414	5.20	0.64	0.58
JUN 17,86	MAY 20,86	1954.0	D 34.5	4.43	D 0.0812	3.05	0.46	0.40
JUL 15,86	JUN 17,86	2965.0	23.2	4.51	0.0552	3.05	0.47	0.27
*AUG 12,86	JUL 15,86	4400.0	28.8	4.37	0.0718	3.65	0.39	0.18
SEP 9,86	AUG 12,86	1706.0	49.9	3.98	0.1350	5.45	0.54	0.13
OCT 7,86	SEP 9,86	4347.0	19.8	4.51	0.0552	2.80	0.27	0.12
NOV 4,86	OCT 7,86	1591.0	26.7	4.33	0.0716	2.70	0.45	0.20
DEC 2,86	NOV 4,86	1290.0	24.1	4.55	0.0554	2.05	0.75	0.26
DEC 30,86	DEC 2,86	2044.0	LG 9.6	UG 4.95	LG 0.0311	0.85	0.22	0.14

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ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DALHOUSIE MILLS/CUMULATIVE PRECIP. #16

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.17	0.31	<T 0.005	<T 0.010	0.070	0.230	0.009
FEB 25,86	JAN 28,86	0.25	0.24	0.020	0.030	0.110	0.170	<T 0.006
MAR 25,86	FEB 25,86	B 0.55	0.70	0.070	D 0.040	B 0.380	0.440	0.008
APR 22,86	MAR 25,86	0.27	U 1.54	U 0.180	0.085	0.120	U 0.900	U 0.050
MAY 20,86	APR 22,86	U 0.28	U 1.53	U 0.360	U 0.285	0.135	U 1.250	U 0.068
JUN 17,86	MAY 20,86	U 2.14	U 1.71	U 0.310	0.190	D 0.050	U 1.450	U 0.170
JUL 15,86	JUN 17,86	0.14	0.55	B 0.295	0.050	0.020	0.370	<T 0.003
AUG 12,86	JUL 15,86	D 0.14	0.53	B 0.320	0.035	0.035	0.375	<T 0.004
SEP 9,86	AUG 12,86	0.12	0.70	D 0.165	0.020	0.025	0.410	<T 0.001
OCT 7,86	SEP 9,86	0.12	0.44	D 0.245	0.035	D 0.040	0.335	<T 0.005
NOV 4,86	OCT 7,86	0.08	0.27	D 0.115	<T 0.010	<W 0.005	0.300	<T 0.007
DEC 2,86	NOV 4,86	B 0.48	0.36	B 0.355	D 0.160	D 0.195	0.270	<T 0.003
DEC 30,86	DEC 2,86	0.18	0.16	D 0.140	<W 0.005	0.065	0.075	<T 0.006

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0002	1DT 0.007	0.023	1DT 0.005	< 0.0004	0.032
FEB 25,86	JAN 28,86	0.002	0.0004	0.012	0.026	1DT 0.011	< 0.0004	1DT 0.041
MAR 25,86	FEB 25,86	D 0.009	0.0011	1DT 0.015	D 0.107	0.006	D 0.0006	0.079
APR 22,86	MAR 25,86	0.005	0.0003	UG 0.021	0.026	UG 0.028	0.0004	0.045
MAY 20,86	APR 22,86	0.008	B 0.0019	1DT 0.011	0.030	0.010	0.0008	0.048
JUN 17,86	MAY 20,86	0.004	< 0.0002	0.019	0.042	0.004	< 0.0004	0.037
JUL 15,86	JUN 17,86	0.006	D 0.0003	0.008	0.032	0.004	< 0.0004	0.019
AUG 12,86	JUL 15,86	0.002	< 0.0002	1DT 0.002	0.016	1DT 0.001	< 0.0004	0.023
SEP 9,86	AUG 12,86	0.001	< 0.0002	1DT 0.006	0.010	0.005	< 0.0004	0.021
OCT 7,86	SEP 9,86	0.002	< 0.0002	1DT 0.001	0.017	1DT 0.001	0.0004	1DT 0.009
NOV 4,86	OCT 7,86	0.002	< 0.0002	1DT 0.005	0.010	0.003	< 0.0004	0.018
DEC 2,86	NOV 4,86	D 0.006	0.0004	1DT 0.007	0.019	1DT 0.002	0.0004	0.037
DEC 30,86	DEC 2,86	D 0.003	< 0.0002	0.002	0.012	< 0.001	< 0.0004	0.012

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DALHOUSIE MILLS/CUMULATIVE PRECIP. #16

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	1DT 0.0016	0.00004	0.0224
FEB 25,86	JAN 28,86	0.0017	B 0.00035	0.0468
MAR 25,86	FEB 25,86	B 0.0129	0.00012	0.0832
APR 22,86	MAR 25,86	1DT 0.0030	UG 0.00034	0.0468
MAY 20,86	APR 22,86	B 0.0043	UG 0.00014	U 0.0093
JUN 17,86	MAY 20,86	0.0008	D 0.00007	0.0372
JUL 15,86	JUN 17,86	0.0010	< 0.00002	0.0309
AUG 12,86	JUL 15,86	1DT 0.0003	< 0.00002	0.0427
SEP 9,86	AUG 12,86	1DT 0.0009	< 0.00002	0.1047
OCT 7,86	SEP 9,86	1DT 0.0006	< 0.00002	0.0309
NOV 4,86	OCT 7,86	< 0.0003	< 0.00002	0.0468
DEC 2,86	NOV 4,86	0.0009	D 0.00020	0.0282
DEC 30,86	DEC 2,86	< 0.0003	< 0.00002	UG 0.0112

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOLDEN LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	1230	700	3	50.0	2	24504	2	1	74	CD
FEB 25,86	JAN 28,86	700	700	3	26.0	3	24510	2	1	86	
MAR 25,86	FEB 25,86	700	700	3	50.0	2	24516	2	1	89	
APR 22,86	MAR 25,86	700	700	1	32.0	2	24522	2	1	89	
MAY 21,86	APR 22,86	705	630	1	77.0	3	24528	2	1	92	D
JUN 17,86	MAY 21,86	630	1700	1	68.0	3	24532	2	1	95	CD
JUL 15,86	JUN 17,86	1705	630	1	48.0	3	24538	2	1	96	CD
AUG 12,86	JUL 15,86	635	700	1	137.0	3	24549	2	1	78	ACD
SEP 9,86	AUG 12,86	705	730	1	43.0	3	24552	2	1	87	C
OCT 7,86	SEP 9,86	735	715	1	80.0	3	24557	2	1	88	A
NOV 4,86	OCT 7,86	720	730	1	35.0	3	24566	2	1	91	
DEC 2,86	NOV 4,86	735	720	3	44.5	9	24574	2	1	I 37	
DEC 30,86	DEC 2,86	725	1200	3	54.0	2	24582	2	1	93	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	1205.0	19.5	4.37	0.0642	1.30	0.29	0.10
FEB 25,86	JAN 28,86	734.0	31.9	4.18	UG 0.1350	1.65	0.76	0.14
MAR 25,86	FEB 25,86	1446.0	28.5	4.30	0.0801	2.05	0.58	0.20
APR 22,86	MAR 25,86	930.0	31.4	4.28	0.0783	3.45	0.61	0.30
MAY 21,86	APR 22,86	2305.0	21.2	4.51	0.0480	2.70	0.38	0.41
JUN 17,86	MAY 21,86	2099.0	16.7	4.59	0.0404	1.95	0.30	0.25
JUL 15,86	JUN 17,86	1498.0	19.2	4.60	0.0458	2.35	0.44	0.51
AUG 12,86	JUL 15,86	3477.0	19.7	4.43	0.0604	1.85	0.27	0.12
SEP 9,86	AUG 12,86	1220.0	42.7	4.05	0.1150	4.50	0.49	0.19
OCT 7,86	SEP 9,86	2298.0	LG 13.7	4.55	0.0472	LG 1.35	LG 0.22	0.11
NOV 4,86	OCT 7,86	1038.0	32.6	4.21	0.0897	2.95	0.55	0.21
DEC 2,86	NOV 4,86	546.0	19.4	4.51	0.0544	1.05	0.55	0.20
DEC 30,86	DEC 2,86	1647.0	LG 10.9	4.71	LG 0.0388	LG 0.60	0.23	<T 0.06

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOLDEN LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.38	0.31	<T 0.010	<T 0.005	0.190	LG 0.050	0.019
FEB 25,86	JAN 28,86	0.22	0.20	0.030	<T 0.010	0.100	0.130	0.008
MAR 25,86	FEB 25,86	0.17	0.29	0.030	<T 0.020	0.095	0.190	0.009
APR 22,86	MAR 25,86	0.16	0.69	0.045	0.035	0.065	0.575	0.012
MAY 21,86	APR 22,86	0.10	0.46	0.080	0.035	0.055	0.390	0.008
JUN 17,86	MAY 21,86	<T 0.05	0.32	0.045	0.065	<T 0.010	0.235	<T 0.004
JUL 15,86	JUN 17,86	0.10	0.30	0.060	0.035	<T 0.010	0.230	<W 0.001
AUG 12,86	JUL 15,86	<T 0.05	0.25	<T 0.010	0.030	<W 0.005	0.190	0.007
SEP 9,86	AUG 12,86	0.08	0.38	0.035	0.025	<T 0.015	0.360	<W 0.001
OCT 7,86	SEP 9,86	0.07	LG 0.10	<T 0.015	<T 0.010	<T 0.020	LG 0.100	<T 0.001
NOV 4,86	OCT 7,86	0.12	0.36	<T 0.020	<T 0.010	0.025	0.330	0.011
DEC 2,86	NOV 4,86	0.17	0.24	0.040	0.025	0.060	0.160	0.015
DEC 30,86	DEC 2,86	0.10	<T 0.05	<T 0.010	<W 0.005	0.040	LG 0.050	<T 0.002

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0008	1DT 0.005	0.022	1DT 0.004	< 0.0004	0.045
FEB 25,86	JAN 28,86	0.002	0.0004	1DT 0.003	0.049	1DT 0.002	< 0.0004	0.039
MAR 25,86	FEB 25,86	0.004	0.0003	1DT 0.004	0.030	1DT 0.003	< 0.0004	0.036
APR 22,86	MAR 25,86	0.005	0.0006	0.007	0.029	0.006	< 0.0004	0.034
MAY 21,86	APR 22,86	0.005	< 0.0002	1DT 0.002	0.025	0.008	< 0.0004	0.031
JUN 17,86	MAY 21,86	0.003	< 0.0002	1DT 0.005	0.012	0.002	< 0.0004	0.013
JUL 15,86	JUN 17,86	0.004	< 0.0002	1DT 0.009	0.038	1DT 0.003	< 0.0004	0.028
AUG 12,86	JUL 15,86	0.001	< 0.0002	0.003	0.009	0.004	0.0005	0.012
SEP 9,86	AUG 12,86	0.002	< 0.0002	1DT 0.007	0.023	0.005	< 0.0004	0.034
OCT 7,86	SEP 9,86	< 0.001	< 0.0002	< 0.001	0.013	1DT 0.001	< 0.0004	1DT 0.008
NOV 4,86	OCT 7,86	0.001	< 0.0002	1DT 0.007	0.016	0.005	< 0.0004	0.018
DEC 2,86	NOV 4,86	0.002	< 0.0002	1DT 0.004	0.027	0.004	< 0.0004	0.024
DEC 30,86	DEC 2,86	0.001	< 0.0002	1DT 0.004	0.009	1DT 0.001	0.0004	0.015

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOLDEN LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	1DT 0.0005	0.00004	0.0427
FEB 25,86	JAN 28,86	0.0013	0.00005	0.0661
MAR 25,86	FEB 25,86	0.0027	0.00015	0.0501
APR 22,86	MAR 25,86	1DT 0.0009	0.00005	0.0525
MAY 21,86	APR 22,86	0.0018	< 0.00002	0.0309
JUN 17,86	MAY 21,86	0.0009	0.00003	0.0257
JUL 15,86	JUN 17,86	< 0.0003	< 0.00002	0.0251
AUG 12,86	JUL 15,86	< 0.0003	< 0.00002	0.0372
SEP 9,86	AUG 12,86	1DT 0.0011	< 0.00002	0.0891
OCT 7,86	SEP 9,86	1DT 0.0008	< 0.00002	0.0282
NOV 4,86	OCT 7,86	< 0.0004	< 0.00002	0.0617
DEC 2,86	NOV 4,86	1DT 0.0013	0.00005	0.0309
DEC 30,86	DEC 2,86	0.0008	< 0.00002	0.0195

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : SMITH'S FALLS/CUMULATIVE PRECIP. #15

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	1014	1050	3	40.0	2	24502	2	1	87	
FEB 25,86	JAN 28,86	1050	1350	3	36.0	2	24508	2	1	43	N
MAR 25,86	FEB 25,86	1350	1050	3	47.0	2	24514	2	1	U 52	DG
APR 22,86	MAR 25,86	1050	1100	1	47.0	2	24520	2	1	72	C
MAY 20,86	APR 22,86	1100	1130	1	69.0	3	24526	2	1	U 82	I
JUN 17,86	MAY 20,86	1130	1105	1	120.0	3	24535	2	1	88	CD
JUL 15,86	JUN 17,86	1105	1045	1	109.0	3	24537	2	1	74	CD
AUG 12,86	JUL 15,86	1045	1730	1	87.0	3	24548	2	1	U 123	FAC
SEP 9,86	AUG 12,86	1730	940	1	139.0	3	24556	2	1	55	
OCT 7,86	SEP 9,86	940	1015	1	134.7	9	24561	2	1	U 74	PJ
NOV 4,86	OCT 7,86	1015	1325	1	56.4	9	24564	2	1	I 91	
DEC 2,86	NOV 4,86	1325	940	3	33.0	2	24569	2	1	77	
DEC 30,86	DEC 2,86	940	1315	3	91.0	2	24579	2	1	79	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	1133.0	47.9	3.94	UG 0.1330	2.95	1.02	0.19
FEB 25,86	JAN 28,86	510.0	40.5	4.06	0.1080	2.40	0.90	0.18
MAR 25,86	FEB 25,86	800.0	27.8	4.31	0.0789	2.40	0.54	0.29
APR 22,86	MAR 25,86	1111.0	33.1	4.46	0.0614	4.75	0.85	0.86
MAY 20,86	APR 22,86	1859.0	24.2	4.58	0.0456	3.90	0.50	0.86
JUN 17,86	MAY 20,86	3460.0	21.1	4.43	0.0524	2.45	0.33	0.24
JUL 15,86	JUN 17,86	2622.0	32.6	4.29	0.0755	3.65	0.61	0.44
AUG 12,86	JUL 15,86	3497.0	33.6	4.18	0.0936	3.75	0.40	D 0.35
SEP 9,86	AUG 12,86	2504.0	D 29.4	D 4.21	D 0.0808	3.30	0.32	D 0.19
OCT 7,86	SEP 9,86	3279.0	D 37.8	D 4.12	D 0.1010	4.10	0.48	D 0.22
NOV 4,86	OCT 7,86	1668.0	32.7	4.23	0.0853	3.10	0.65	D 0.30
DEC 2,86	NOV 4,86	832.0	24.4	4.36	0.0672	1.65	0.63	0.31
DEC 30,86	DEC 2,86	2345.0	LG 10.2	4.75	LG 0.0360	0.75	LG 0.17	0.14

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SMITH'S FALLS/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.26	0.39	0.015	<T 0.020	0.105	0.210	0.018
FEB 25,86	JAN 28,86	0.33	0.32	0.040	0.065	0.225	0.135	<T 0.003
MAR 25,86	FEB 25,86	0.19	0.30	0.055	<T 0.015	0.100	0.200	0.011
APR 22,86	MAR 25,86	0.27	1.08	0.120	0.050	0.175	UG 0.950	0.018
MAY 20,86	APR 22,86	0.15	0.57	0.245	0.040	0.085	0.370	0.018
JUN 17,86	MAY 20,86	0.08	0.41	0.050	0.025	0.025	0.290	<T 0.004
JUL 15,86	JUN 17,86	0.16	0.51	0.080	0.060	0.030	0.425	<T 0.004
AUG 12,86	JUL 15,86	0.08	0.36	0.055	<W 0.005	<T 0.010	0.310	0.006
SEP 9,86	AUG 12,86	0.08	0.29	0.015	<T 0.010	<T 0.015	0.265	<T 0.001
OCT 7,86	SEP 9,86	0.11	0.41	<T 0.020	<T 0.010	<T 0.010	0.390	D 0.010
NOV 4,86	OCT 7,86	0.08	0.36	0.030	<T 0.005	<W 0.005	0.410	<T 0.007
DEC 2,86	NOV 4,86	0.17	0.14	0.070	<W 0.005	0.055	0.135	0.010
DEC 30,86	DEC 2,86	0.08	<T 0.03	<T 0.015	<W 0.005	0.050	<T 0.020	<T 0.002

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.003	0.0006	0.010	0.039	1DT 0.004	< 0.0004	0.053
FEB 25,86	JAN 28,86	D 0.005	0.0005	0.010	0.017	1DT 0.011	< 0.0004	1DT 0.031
MAR 25,86	FEB 25,86	0.003	0.0003	1DT 0.007	0.026	0.009	< 0.0004	0.055
APR 22,86	MAR 25,86	D 0.010	0.0003	0.009	0.048	0.015	< 0.0004	0.047
MAY 20,86	APR 22,86	0.010	< 0.0002	1DT 0.006	0.038	0.012	0.0004	0.044
JUN 17,86	MAY 20,86	0.003	< 0.0002	1DT 0.004	0.010	0.003	< 0.0004	1DT 0.007
JUL 15,86	JUN 17,86	0.004	< 0.0002	0.009	0.031	1DT 0.003	< 0.0004	0.019
AUG 12,86	JUL 15,86	0.001	< 0.0002	0.007	0.015	0.005	0.0005	0.015
SEP 9,86	AUG 12,86	0.001	< 0.0002	1DT 0.005	0.019	0.002	0.0004	0.012
OCT 7,86	SEP 9,86	0.002	< 0.0002	D 0.003	0.011	1DT 0.001	< 0.0004	0.015
NOV 4,86	OCT 7,86	0.002	< 0.0002	1DT 0.008	0.014	0.005	< 0.0004	0.019
DEC 2,86	NOV 4,86	0.002	< 0.0002	1DT 0.006	0.027	1DT 0.003	0.0006	0.028
DEC 30,86	DEC 2,86	0.001	< 0.0002	0.005	0.011	< 0.001	< 0.0004	0.010

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SMITH'S FALLS/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 28,86	DEC 31,85	1DT 0.0012	0.00014	0.1148
FEB 25,86	JAN 28,86	0.0012	0.00013	0.0871
MAR 25,86	FEB 25,86	0.0048	0.00010	0.0490
APR 22,86	MAR 25,86	1DT 0.0030	0.00008	0.0347
MAY 20,86	APR 22,86	1DT 0.0011	< 0.00002	0.0263
JUN 17,86	MAY 20,86	1DT 0.0004	< 0.00002	0.0372
JUL 15,86	JUN 17,86	1DT 0.0003	0.00004	0.0513
AUG 12,86	JUL 15,86	< 0.0003	U 0.01300	0.0661
SEP 9,86	AUG 12,86	1DT 0.0005	< 0.00002	D 0.0617
OCT 7,86	SEP 9,86	< 0.0003	< 0.00002	D 0.0759
NOV 4,86	OCT 7,86	< 0.0003	< 0.00002	0.0589
DEC 2,86	NOV 4,86	< 0.0004	< 0.00002	0.0437
DEC 30,86	DEC 2,86	< 0.0003	< 0.00002	0.0178

PART VI

NORTHEASTERN REGION

CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : AZURE LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 31,86	JAN 2,86	1136	1132	2	50.4	9	35759	2	1	I 31	CD N
FEB 27,86	JAN 31,86	1132	1130	2	10.0	2	35768	2	1	116	C
MAR 25,86	FEB 27,86	1130	900	2	87.0	2	35825	2	1	U 45	G Z
APR 23,86	MAR 25,86	900	1230	3	44.7	2	35854	2	1	67	C
MAY 21,86	APR 23,86	1230	1048	1	56.0	2	35881	2	1	95	CD
JUN 19,86	MAY 21,86	1048	1050	1	39.0	3	35925	2	1	100	CD
JUL 15,86	JUN 19,86	1050	1600	1	55.0	3	35989	2	1	94	CD Z
AUG 12,86	JUL 15,86	1600	1200	1	148.0	3	36073	2	1	82	CD
SEP 11,86	AUG 12,86	1200	1130	1	71.0	3	36147	2	1	93	CD Z
OCT 9,86	SEP 11,86	1130	1045	1	93.0	3	36223	2	1	84	
NOV 6,86	OCT 9,86	1045	1113	1	108.0	3	36318	2	1	59	
DEC 5,86	NOV 6,86	1113	1057	3	32.8	3	36395	2	1	U 89	GC
JAN 5,87	DEC 5,86	1057	1000	2	17.7	2	36487	2	1	69	Z

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,86	JAN 2,86	521.0	31.5	4.35	0.0738	2.35	0.57	0.13
FEB 27,86	JAN 31,86	377.0	16.0	D 4.50	0.0622	1.55	LG 0.11	0.05
MAR 25,86	FEB 27,86	1297.0	12.1	4.84	0.0328	1.35	0.20	0.21
APR 23,86	MAR 25,86	985.0	22.4	4.33	0.0691	2.30	0.24	0.23
MAY 21,86	APR 23,86	1729.0	27.0	4.36	0.0656	3.45	0.46	0.27
JUN 19,86	MAY 21,86	1273.0	18.7	4.45	0.0526	2.10	0.18	0.14
JUL 15,86	JUN 19,86	1695.0	10.5	4.69	0.0363	1.00	0.20	0.11
AUG 12,86	JUL 15,86	3973.0	15.0	4.63	0.0435	1.35	0.21	0.07
SEP 11,86	AUG 12,86	2163.0	27.6	4.24	0.0796	2.80	0.30	0.16
OCT 9,86	SEP 11,86	2556.0	13.2	4.63	0.0416	1.45	0.14	0.19
NOV 6,86	OCT 9,86	2085.0	27.2	4.28	0.0793	3.00	0.45	D 0.46
DEC 5,86	NOV 6,86	953.0	15.2	4.62	0.0473	0.90	0.34	<T 0.08
JAN 5,87	DEC 5,86	401.0	21.3	4.44	0.0667	1.25	0.44	0.22

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : AZURE LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE		CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,86	JAN 2,86	B	1.23	0.51	0.015	0.035	B 0.825	0.430	0.012
FEB 27,86	JAN 31,86		0.27	0.14	<T 0.010	<W 0.005	0.200	<W 0.005	0.026
MAR 25,86	FEB 27,86		0.23	0.76	0.020	0.065	0.150	0.160	<T 0.006
APR 23,86	MAR 25,86		0.08	0.22	0.030	<T 0.010	0.060	0.105	<W 0.001
MAY 21,86	APR 23,86		0.13	0.89	0.050	0.110	0.030	0.580	D 0.044
JUN 19,86	MAY 21,86		0.09	0.21	0.025	0.040	<T 0.015	0.105	0.014
JUL 15,86	JUN 19,86	<T	0.03	0.17	0.020	<T 0.005	<T 0.015	0.110	<W 0.001
AUG 12,86	JUL 15,86	<T	0.05	0.25	0.020	<T 0.015	<W 0.005	0.185	<W 0.001
SEP 11,86	AUG 12,86	<T	0.06	0.28	0.025	<W 0.005	<W 0.005	0.215	<T 0.005
OCT 9,86	SEP 11,86	<T	0.03	0.15	<T 0.010	<T 0.005	0.020	0.100	<W 0.001
NOV 6,86	OCT 9,86		0.06	0.34	D 0.050	<T 0.025	<T 0.010	0.400	<T 0.004
DEC 5,86	NOV 6,86		0.08	0.18	<T 0.010	<T 0.015	0.035	D 0.105	<T 0.009
JAN 5,87	DEC 5,86		0.20	0.52	<T 0.010	<T 0.005	0.095	0.445	<T 0.023

REMOVAL DATE	EXPOSURE DATE		MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,86	JAN 2,86		0.002	0.0033	1DT 0.024	0.074	1DT 0.006	< 0.0004	1DT 0.063
FEB 27,86	JAN 31,86		*****	*****	*****	*****	*****	*****	*****
MAR 25,86	FEB 27,86		0.003	0.0015	0.011	0.025	0.003	< 0.0004	D 0.050
APR 23,86	MAR 25,86		0.003	0.0003	1DT 0.007	0.040	1DT 0.009	< 0.0004	0.060
MAY 21,86	APR 23,86		0.005	< 0.0002	1DT 0.015	0.033	< 0.002	< 0.0004	0.035
JUN 19,86	MAY 21,86		0.003	< 0.0002	1DT 0.008	0.043	0.005	< 0.0004	0.032
JUL 15,86	JUN 19,86		0.001	< 0.0002	1DT 0.003	1DT 0.012	1DT 0.001	< 0.0004	< 0.008
AUG 12,86	JUL 15,86		0.001	< 0.0002	< 0.001	0.008	0.001	< 0.0004	0.011
SEP 11,86	AUG 12,86		0.001	< 0.0002	0.006	0.010	0.005	0.0009	0.012
OCT 9,86	SEP 11,86		0.001	< 0.0002	1DT 0.002	0.019	1DT 0.002	< 0.0004	1DT 0.010
NOV 6,86	OCT 9,86	D	0.004	< 0.0002	1DT 0.003	0.016	0.003	< 0.0004	0.015
DEC 5,86	NOV 6,86		0.001	< 0.0002	0.005	0.026	1DT 0.003	< 0.0004	0.016
JAN 5,87	DEC 5,86	<	0.001	< 0.0002	1DT 0.004	0.032	1DT 0.004	< 0.0004	1DT 0.037

ONTARIO MINISTRY OF THE ENVIRONMENT
 CUMULATIVE SAMPLING ANALYSIS RESULTS
 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : AZURE LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 31,86	JAN 2,86	0.0063	B 0.00085	0.0447
FEB 27,86	JAN 31,86	*****	***** D	0.0316
MAR 25,86	FEB 27,86	0.0009	0.00012	0.0145
APR 23,86	MAR 25,86	0.0010	0.00005	0.0468
MAY 21,86	APR 23,86	1DT 0.0015	0.00012	0.0437
JUN 19,86	MAY 21,86	0.0007	< 0.00002	0.0355
JUL 15,86	JUN 19,86	< 0.0003	< 0.00002	0.0204
AUG 12,86	JUL 15,86	< 0.0003	< 0.00002	0.0234
SEP 11,86	AUG 12,86	< 0.0003	< 0.00002	0.0575
OCT 9,86	SEP 11,86	0.0008	< 0.00002	0.0234
NOV 6,86	OCT 9,86	< 0.0003	< 0.00002	0.0525
DEC 5,86	NOV 6,86	1DT 0.0019	0.00021	0.0240
JAN 5,87	DEC 5,86	0.0027	< 0.00002	0.0363

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BEAR ISLAND/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	JAN 7,86	1020	1705	2	7.0	2	35765	2	1	126	C NZ
FEB 25,86	JAN 28,86	1705	1135	2	23.0	2	35774	2	1	27	C N
MAR 25,86	FEB 25,86	1135	1330	2	85.6	2	35883	2	1	76	CD
APR 22,86	MAR 25,86	1330	1700	1	68.8	2	35884	2	1	67	CD
MAY 20,86	APR 22,86	1700	1605	1	74.5	2	35885	2	1	U 19	CDG
JUN 17,86	MAY 20,86	1605	945	1	86.5	3	35926	2	1	70	CD
JUL 15,86	JUN 17,86	945	1700	1	25.0	3	35990	2	1	133	ACD N
AUG 12,86	JUL 15,86	1700	1548	1	105.0	3	36074	2	1	89	ACDB
SEP 9,86	AUG 12,86	1548	1700	1	75.0	3	36148	2	1	102	CD
OCT 7,86	SEP 9,86	1700	912	1	103.0	3	36224	2	1	74	B
NOV 4,86	OCT 7,86	912	1100	1	107.0	3	36319	2	1	60	AD
DEC 2,86	NOV 4,86	1110	953	3	18.7	2	36550	2	1	U 81	FD
DEC 30,86	DEC 2,86	953	1300	3	52.3	2	36551	2	1	68	D

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	JAN 7,86	287.0	47.2	4.08	UG 0.1430	4.10	1.13	0.17
FEB 25,86	JAN 28,86	209.0	21.5	4.35	0.0804	1.45	0.34	0.10
MAR 25,86	FEB 25,86	2115.0	24.2	4.37	0.0629	2.60	0.45	0.24
APR 22,86	MAR 25,86	1506.0	18.6	4.54	LG 0.0486	2.35	0.31	0.22
MAY 20,86	APR 22,86	469.0	46.4	4.05	0.1130	5.15	0.85	0.31
JUN 17,86	MAY 20,86	1992.0	16.6	4.54	0.0479	1.85	0.15	0.08
JUL 15,86	JUN 17,86	1081.0	19.8	4.46	0.0537	2.60	0.38	0.42
AUG 12,86	JUL 15,86	3041.0	14.5	4.61	0.0308	1.65	0.20	0.12
SEP 9,86	AUG 12,86	2499.0	19.4	4.44	0.0571	2.10	0.20	0.11
OCT 7,86	SEP 9,86	2496.0	LG 13.5	4.58	0.0456	LG 1.35	LG 0.13	0.06
NOV 4,86	OCT 7,86	2114.0	35.7	4.14	0.0984	3.30	0.54	0.14
DEC 2,86	NOV 4,86	494.0	32.3	4.31	0.0772	2.60	0.77	0.22
DEC 30,86	DEC 2,86	1164.0	15.7	4.59	LG 0.0484	0.95	0.34	<T 0.04

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BEAR ISLAND/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	JAN 7,86	0.31	1.17	0.030	0.115	0.145	0.925	0.012
FEB 25,86	JAN 28,86	UG 0.52	0.29	<T 0.015	<T 0.015	UG 0.385	<W 0.005	UG 0.070
MAR 25,86	FEB 25,86	0.12	0.52	0.030	0.030	0.040	0.390	0.009
APR 22,86	MAR 25,86	0.10	0.54	0.035	0.030	0.030	0.425	0.006
MAY 20,86	APR 22,86	0.29	1.00	0.060	0.120	0.125	0.780	0.021
JUN 17,86	MAY 20,86	<T 0.04	0.26	0.020	0.055	0.020	0.145	0.012
JUL 15,86	JUN 17,86	0.08	0.40	0.070	0.085	0.020	0.295	<T 0.002
AUG 12,86	JUL 15,86	0.12	0.36	0.030	0.140	0.055	0.215	0.012
SEP 9,86	AUG 12,86	<T 0.05	0.28	0.015	0.035	<W 0.005	0.220	0.013
OCT 7,86	SEP 9,86	<T 0.03	<T 0.09	<T 0.005	0.065	<T 0.020	LG 0.070	<T 0.002
NOV 4,86	OCT 7,86	0.10	0.21	<T 0.025	0.100	0.030	0.275	<T 0.007
DEC 2,86	NOV 4,86	0.18	0.66	0.030	0.050	0.075	0.560	<T 0.004
DEC 30,86	DEC 2,86	0.11	0.12	<T 0.010	<T 0.025	0.065	0.130	0.011

REMOVAL DATE	EXPOSURE DATE	MANGANESE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	JAN 7,86	0.002	0.0016	UG 0.044	0.033	1DT 0.007	0.0005	1DT 0.162
FEB 25,86	JAN 28,86	0.002	UG 0.0023	0.020	0.040	1DT 0.004	*****	1DT 0.120
MAR 25,86	FEB 25,86	0.005	0.0007	1DT 0.012	0.043	< 0.001	< 0.0004	0.056
APR 22,86	MAR 25,86	0.003	0.0006	1DT 0.006	0.033	< 0.002	< 0.0004	0.029
MAY 20,86	APR 22,86	0.004	0.0010	1DT 0.013	0.052	1DT 0.003	< 0.0004	0.071
JUN 17,86	MAY 20,86	0.003	UG 0.0013	1DT 0.006	0.034	0.005	< 0.0004	0.025
JUL 15,86	JUN 17,86	0.004	0.0003	1DT 0.005	D 0.021	1DT 0.001	< 0.0004	0.017
AUG 12,86	JUL 15,86	0.002	< 0.0002	1DT 0.004	0.010	1DT 0.001	< 0.0004	0.011
SEP 9,86	AUG 12,86	0.001	0.0008	0.007	0.030	D 0.003	0.0005	0.013
OCT 7,86	SEP 9,86	< 0.001	< 0.0002	1DT 0.004	0.020	1DT 0.001	< 0.0004	0.013
NOV 4,86	OCT 7,86	0.002	UG 0.0040	0.008	0.014	0.009	< 0.0004	0.013
DEC 2,86	NOV 4,86	0.003	UG 0.0028	1DT 0.019	0.054	1DT 0.004	0.0004	0.056
DEC 30,86	DEC 2,86	< 0.001	0.0014	1DT 0.005	0.017	1DT 0.004	< 0.0004	0.021

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BEAR ISLAND/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	JAN 7,86	0.0082	0.00032	0.0832
FEB 25,86	JAN 28,86	0.0064	0.00017	0.0447
MAR 25,86	FEB 25,86	1DT 0.0015	0.00012	0.0427
APR 22,86	MAR 25,86	1DT 0.0013	0.00011	0.0288
MAY 20,86	APR 22,86	1DT 0.0032	0.00014	0.0891
JUN 17,86	MAY 20,86	0.0029	< 0.00002	0.0288
JUL 15,86	JUN 17,86	< 0.0004	0.00007	0.0347
AUG 12,86	JUL 15,86	1DT 0.0005	< 0.00002	0.0245
SEP 9,86	AUG 12,86	D 0.0015	< 0.00002	0.0363
OCT 7,86	SEP 9,86	0.0006	< 0.00002	0.0263
NOV 4,86	OCT 7,86	UG 0.0072	< 0.00002	0.0724
DEC 2,86	NOV 4,86	UG 0.0259	UG 0.00056	0.0490
DEC 30,86	DEC 2,86	0.0049	0.00010	0.0257

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOWGANDA/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	805	1610	2	21.9	2	35752	2	1	43	C N
FEB 25,86	JAN 28,86	1610	945	2	12.0	2	35766	2	1	49	C N
MAR 25,86	FEB 25,86	945	1030	2	79.0	2	35814	2	1	65	C
APR 22,86	MAR 25,86	1030	810	3	54.0	2	35842	2	1	66	D
MAY 20,86	APR 22,86	810	1110	1	61.0	3	35870	2	1	91	CD
JUN 17,86	MAY 20,86	1110	1010	1	44.0	3	35915	2	1	98	CD
JUL 15,86	JUN 17,86	1010	1130	1	43.0	3	35980	2	1	88	CD HM
AUG 12,86	JUL 15,86	1130	1400	1	74.0	3	36063	2	1	94	C
SEP 9,86	AUG 12,86	1400	1025	1	68.0	3	36136	2	1	89	AC
OCT 7,86	SEP 9,86	1400	1237	1	84.0	3	36212	2	1	83	D
NOV 4,86	OCT 7,86	1237	1115	1	78.0	2	36307	2	1	U 57	G
DEC 2,86	NOV 4,86	1115	1005	3	28.0	2	36384	2	1	54	
DEC 30,86	DEC 2,86	1005	1100	2	27.0	2	36476	2	1	51	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	309.0	29.1	4.34	0.0811	2.25	0.58	0.14
FEB 25,86	JAN 28,86	194.0	28.2	UCR 4.26	0.0905	2.75	0.29	0.09
MAR 25,86	FEB 25,86	1684.0	18.3	4.41	0.0544	1.65	0.27	0.11
APR 22,86	MAR 25,86	1171.0	18.6	4.50	0.0539	2.25	0.22	0.21
MAY 20,86	APR 22,86	1822.0	24.8	4.37	0.0655	2.90	0.32	0.17
JUN 17,86	MAY 20,86	1410.0	14.7	4.62	0.0433	1.70	0.14	0.16
JUL 15,86	JUN 17,86	1232.0	11.0	4.64	0.0426	1.15	0.18	0.23
AUG 12,86	JUL 15,86	2270.0	13.3	4.66	0.0408	1.15	0.18	<T 0.02
SEP 9,86	AUG 12,86	1986.0	23.3	4.35	0.0667	2.65	0.22	0.14
OCT 7,86	SEP 9,86	2273.0	18.6	4.38	0.0615	2.15	0.15	0.06
NOV 4,86	OCT 7,86	1450.0	7.8	5.02	0.0292	1.05	LG 0.06	0.12
DEC 2,86	NOV 4,86	499.0	23.0	4.43	0.0638	1.85	0.53	0.16
DEC 30,86	DEC 2,86	449.0	18.7	4.36	0.0633	0.95	0.43	<W 0.02

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOWGANDA/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.23	0.47	0.025	0.035	0.175	0.375	0.023
FEB 25,86	JAN 28,86	0.20	0.15	0.015	<T 0.005	0.155	<T 0.005	0.013
MAR 25,86	FEB 25,86	0.09	0.21	<T 0.010	<T 0.015	0.045	0.150	0.011
APR 22,86	MAR 25,86	0.12	0.32	0.030	0.045	0.080	0.225	0.012
MAY 20,86	APR 22,86	D 0.07	0.55	0.035	0.035	<T 0.010	0.375	0.008
JUN 17,86	MAY 20,86	<T 0.04	0.30	0.030	0.045	<T 0.020	0.140	0.010
JUL 15,86	JUN 17,86	<T 0.04	0.16	0.055	0.035	<T 0.015	0.110	<W 0.001
AUG 12,86	JUL 15,86	<T 0.05	0.18	<T 0.005	0.020	<T 0.005	0.190	<W 0.001
SEP 9,86	AUG 12,86	<T 0.06	0.29	0.020	<W 0.005	<T 0.005	0.250	<T 0.001
OCT 7,86	SEP 9,86	<T 0.05	0.15	<T 0.005	0.030	<T 0.010	0.125	<T 0.001
NOV 4,86	OCT 7,86	0.08	B 2.35	<T 0.015	0.070	0.070	0.115	<T 0.003
DEC 2,86	NOV 4,86	0.09	0.27	0.050	0.030	<T 0.020	0.250	<T 0.003
DEC 30,86	DEC 2,86	0.15	0.30	<T 0.010	<T 0.015	0.105	0.075	0.019

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0011	1DT 0.010	0.050	1DT 0.008	< 0.0004	1DT 0.056
FEB 25,86	JAN 28,86	0.002	0.0006	0.010	0.012	1DT 0.003	< 0.0004	1DT 0.074
MAR 25,86	FEB 25,86	0.002	< 0.0002	1DT 0.004	0.018	0.002	< 0.0004	0.027
APR 22,86	MAR 25,86	0.004	0.0003	1DT 0.005	0.043	0.003	< 0.0004	0.070
MAY 20,86	APR 22,86	0.006	< 0.0002	1DT 0.009	0.031	1DT 0.005	< 0.0004	0.034
JUN 17,86	MAY 20,86	0.003	< 0.0002	1DT 0.007	0.037	0.005	< 0.0004	D 0.047
JUL 15,86	JUN 17,86	0.001	< 0.0002	1DT 0.003	1DT 0.012	1DT 0.002	< 0.0004	1DT 0.089
AUG 12,86	JUL 15,86	0.001	< 0.0002	< 0.001	0.006	< 0.001	< 0.0004	0.010
SEP 9,86	AUG 12,86	0.001	< 0.0002	0.014	0.010	0.004	< 0.0005	0.013
OCT 7,86	SEP 9,86	< 0.001	< 0.0002	< 0.001	0.018	< 0.001	< 0.0004	1DT 0.017
NOV 4,86	OCT 7,86	0.002	D 0.0006	1DT 0.007	0.017	1DT 0.014	< 0.0004	0.016
DEC 2,86	NOV 4,86	0.003	< 0.0002	0.005	0.038	0.003	< 0.0004	0.050
DEC 30,86	DEC 2,86	< 0.001	< 0.0002	1DT 0.006	0.011	1DT 0.003	< 0.0004	1DT 0.033

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOWGANDA/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	0.0029	0.00020	0.0457
FEB 25,86	JAN 28,86	0.0026	0.00018	UCR 0.0550
MAR 25,86	FEB 25,86	0.0005	0.00003	0.0389
APR 22,86	MAR 25,86	0.0021	0.00010	0.0316
MAY 20,86	APR 22,86	< 0.0003	0.00010	0.0427
JUN 17,86	MAY 20,86	UG 0.0126	< 0.00002	0.0240
JUL 15,86	JUN 17,86	< 0.0004	< 0.00002	0.0229
AUG 12,86	JUL 15,86	< 0.0003	< 0.00002	0.0219
SEP 9,86	AUG 12,86	1DT 0.0007	< 0.00002	0.0447
OCT 7,86	SEP 9,86	1DT 0.0007	< 0.00002	0.0417
NOV 4,86	OCT 7,86	1DT 0.0014	0.00002	0.0095
DEC 2,86	NOV 4,86	1DT 0.0028	0.00007	0.0372
DEC 30,86	DEC 2,86	1DT 0.0014	0.00010	0.0437

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : KILLARNEY/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 27,86	DEC 30,85	850	1420	2	50.9	2	35754	2	1	44	CD N
FEB 25,86	JAN 27,86	1420	1355	2	9.6	2	35771	2	1	168	C N
MAR 25,86	FEB 25,86	1355	1142	2	75.1	2	35821	2	1	79	D
APR 22,86	MAR 25,86	1142	1038	3	27.2	3	35849	2	1	118	CD
MAY 21,86	APR 22,86	1038	1050	1	51.0	3	35877	2	1	95	CD
JUN 17,86	MAY 21,86	1050	1525	1	82.0	3	35922	2	1	89	CD
JUL 14,86	JUN 17,86	1525	1120	1	48.0	3	35986	2	1	98	ACD
AUG 12,86	JUL 14,86	1120	1145	1	56.0	3	36070	2	1	94	
SEP 10,86	AUG 12,86	1145	1128	1	38.0	3	36144	2	1	102	AC
OCT 11,86	SEP 10,86	1128	1320	1	87.0	3	36220	2	1	96	A Z
NOV 4,86	OCT 11,86	1320	1700	1	53.0	3	36315	2	1	96	Z
DEC 2,86	NOV 4,86	1700	1315	3	30.0	2	36392	2	1	75	
JAN 4,87	DEC 2,86	1315	1044	2	84.0	2	36484	2	1	48	NZ

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 27,86	DEC 30,85	740.0	43.0	4.19	0.1020	2.85	1.28	0.33
FEB 25,86	JAN 27,86	524.0	22.3	4.38	0.0726	1.90	0.39	0.17
MAR 25,86	FEB 25,86	1950.0	39.1	4.15	0.0982	3.35	0.80	0.30
APR 22,86	MAR 25,86	1050.0	25.8	4.38	0.0703	2.85	0.52	0.37
MAY 21,86	APR 22,86	1586.0	29.2	4.27	0.0752	2.85	0.52	0.21
JUN 17,86	MAY 21,86	2394.0	22.5	4.38	0.0590	2.60	0.28	0.19
JUL 14,86	JUN 17,86	1539.0	LG 13.1	4.68	0.0415	LG 1.40	0.20	0.14
AUG 12,86	JUL 14,86	1718.0	LG 12.3	B 6.85	LG 0.0188	1.70	<W 0.01	*****
SEP 10,86	AUG 12,86	1263.0	54.2	3.91	0.1470	5.35	0.72	0.23
OCT 11,86	SEP 10,86	2720.0	20.3	4.35	0.0653	1.75	0.27	0.07
NOV 4,86	OCT 11,86	1665.0	36.1	4.14	0.0961	3.40	0.58	0.16
DEC 2,86	NOV 4,86	740.0	31.0	4.31	0.0844	2.45	0.75	0.26
JAN 4,87	DEC 2,86	1315.0	D 43.2	4.12	UG 0.1140	3.15	1.00	<T 0.08

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : KILLARNEY/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 27,86	DEC 30,85	0.33	0.91	0.045	0.060	0.160	0.715	0.008
FEB 25,86	JAN 27,86	0.38	0.15	0.055	<T 0.020	UG 0.270	0.040	0.016
MAR 25,86	FEB 25,86	0.14	0.66	0.040	0.025	0.055	0.475	0.005
APR 22,86	MAR 25,86	0.09	0.70	0.045	0.030	0.045	0.580	<T 0.005
MAY 21,86	APR 22,86	0.11	0.45	0.035	0.030	0.020	0.390	<T 0.003
JUN 17,86	MAY 21,86	<T 0.05	0.36	0.040	0.020	<T 0.015	0.275	0.007
JUL 14,86	JUN 17,86	<T 0.04	0.32	0.025	0.025	0.020	0.190	<T 0.005
AUG 12,86	JUL 14,86	0.13	*****	*****	*****	*****	<W 0.005	*****
SEP 10,86	AUG 12,86	0.12	0.58	0.040	0.030	<T 0.020	0.445	0.018
OCT 11,86	SEP 10,86	0.06	<T 0.08	<T 0.010	<W 0.005	<T 0.020	LG 0.055	<W 0.001
NOV 4,86	OCT 11,86	0.12	0.40	0.025	0.025	0.040	0.430	<T 0.006
DEC 2,86	NOV 4,86	0.15	0.45	0.040	0.060	0.060	0.390	<T 0.003
JAN 4,87	DEC 2,86	0.18	0.78	<T 0.015	<T 0.005	0.035	0.670	<W 0.002

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 27,86	DEC 30,85	0.004	0.0007	0.015	0.062	1DT 0.008	0.0005	1DT 0.073
FEB 25,86	JAN 27,86	0.002	0.0006	B 0.133	B 0.240	1DT 0.003	< 0.0004	0.120
MAR 25,86	FEB 25,86	0.005	0.0020	0.009	0.045	0.005	< 0.0004	0.053
APR 22,86	MAR 25,86	0.004	0.0006	1DT 0.008	0.036	1DT 0.005	0.0008	0.099
MAY 21,86	APR 22,86	0.003	0.0004	1DT 0.008	0.032	< 0.002	< 0.0004	0.030
JUN 17,86	MAY 21,86	0.004	0.0004	1DT 0.006	0.035	0.004	< 0.0004	0.028
JUL 14,86	JUN 17,86	0.001	0.0002	1DT 0.010	0.014	1DT 0.002	< 0.0004	1DT 0.008
AUG 12,86	JUL 14,86	0.001	UG 0.0033	1DT 0.005	0.007	< 0.002	< 0.0004	0.014
SEP 10,86	AUG 12,86	0.002	< 0.0002	0.015	0.061	0.006	< 0.0007	0.031
OCT 11,86	SEP 10,86	< 0.001	< 0.0002	1DT 0.001	0.013	1DT 0.002	< 0.0004	1DT 0.012
NOV 4,86	OCT 11,86	0.001	< 0.0002	1DT 0.004	0.011	1DT 0.003	< 0.0004	0.014
DEC 2,86	NOV 4,86	0.002	0.0007	1DT 0.006	0.034	1DT 0.006	< 0.0004	0.035
JAN 4,87	DEC 2,86	< 0.001	< 0.0002	1DT 0.006	0.014	1DT 0.006	0.0005	0.022

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : KILLARNEY/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 27,86	DEC 30,85	1DT 0.0033	0.00023	0.0646
FEB 25,86	JAN 27,86	0.0026	0.00021	0.0417
MAR 25,86	FEB 25,86	0.0007	0.00013	0.0708
APR 22,86	MAR 25,86	< 0.0004	0.00006	0.0417
MAY 21,86	APR 22,86	0.0005	0.00020	0.0537
JUN 17,86	MAY 21,86	UG 0.0093	< 0.00002	0.0417
JUL 14,86	JUN 17,86	< 0.0003	< 0.00002	0.0209
AUG 12,86	JUL 14,86	< 0.0003	0.00007	B 0.0001
SEP 10,86	AUG 12,86	1DT 0.0010	< 0.00002	0.1230
OCT 11,86	SEP 10,86	0.0013	< 0.00002	0.0447
NOV 4,86	OCT 11,86	< 0.0003	< 0.00002	0.0724
DEC 2,86	NOV 4,86	1DT 0.0031	0.00010	0.0490
JAN 4,87	DEC 2,86	0.0011	0.00009	0.0759

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MATTAWA/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	JAN 15,86	1330	1315	2	7.8	2	35762	2	1	138	NZ
FEB 25,86	JAN 28,86	1315	1450	2	14.0	2	35772	2	1	117	C
MAR 25,86	FEB 25,86	1450	1430	2	90.2	2	35819	2	1	67	D
APR 22,86	MAR 25,86	1430	1135	3	65.0	2	35847	2	1	78	D
MAY 21,86	APR 22,86	1135	1150	1	75.0	3	35875	2	1	97	CD H
JUN 17,86	MAY 21,86	1150	1120	1	113.0	3	35920	2	1	92	CD
JUL 15,86	JUN 17,86	1120	1430	1	63.0	3	35985	2	1	91	ACD
AUG 12,86	JUL 15,86	1430	1110	1	85.0	3	36067	2	1	69	CD
SEP 9,86	AUG 12,86	1110	1045	1	45.0	3	36141	2	1	88	AC
OCT 7,86	SEP 9,86	1045	1105	1	100.0	3	36217	2	1	U 22	GA
NOV 4,86	OCT 7,86	1105	1310	1	68.2	2	36312	2	1	59	
DEC 2,86	NOV 4,86	1310	1115	3	28.4	2	36389	2	1	U 8	G
DEC 30,86	DEC 2,86	1115	1430	2	61.3	2	36481	2	1	72	M

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	JAN 15,86	352.0	46.4	4.08	UG 0.1190	3.50	1.04	0.15
FEB 25,86	JAN 28,86	535.0	26.9	4.26	0.0861	1.65	0.57	0.16
MAR 25,86	FEB 25,86	1963.0	27.8	4.32	0.0743	2.65	0.57	0.28
APR 22,86	MAR 25,86	1662.0	19.2	4.51	LG 0.0498	2.05	0.35	0.34
MAY 21,86	APR 22,86	2366.0	22.6	U 5.88	0.0337	4.30	0.60	0.47
JUN 17,86	MAY 21,86	3402.0	17.2	4.54	0.0459	1.90	0.23	0.12
JUL 15,86	JUN 17,86	1878.0	LG 10.4	U 5.34	U 0.0245	1.70	0.21	0.11
AUG 12,86	JUL 15,86	1925.0	19.6	4.48	0.0544	1.80	0.24	0.10
SEP 9,86	AUG 12,86	1286.0	37.4	4.11	0.1020	3.95	0.41	0.21
OCT 7,86	SEP 9,86	727.0	18.6	4.42	0.0594	1.85	0.28	0.16
NOV 4,86	OCT 7,86	1307.0	D 46.2	4.04	D 0.1400	4.00	0.92	0.22
DEC 2,86	NOV 4,86	74.0	24.1	4.45	0.0739	1.70	0.71	0.40
DEC 30,86	DEC 2,86	1437.0	15.6	4.55	LG 0.0484	0.80	0.34	<W 0.02

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MATTAWA/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	JAN 15,86	0.27	0.79	0.025	0.030	0.115	0.600	0.008
FEB 25,86	JAN 28,86	0.15	0.22	0.020	0.045	0.075	0.090	0.006
MAR 25,86	FEB 25,86	0.15	0.49	0.040	0.025	0.085	0.355	0.018
APR 22,86	MAR 25,86	0.10	0.36	0.050	0.030	0.065	0.220	0.012
MAY 21,86	APR 22,86	0.23	U 3.40	0.075	0.235	0.055	U 1.680	U 0.225
JUN 17,86	MAY 21,86	<T 0.04	0.32	0.020	0.030	<T 0.015	0.240	0.007
JUL 15,86	JUN 17,86	0.10	U 0.87	0.025	0.120	0.040	U 0.530	U 0.032
AUG 12,86	JUL 15,86	<T 0.05	0.21	<T 0.010	<T 0.015	<W 0.005	0.150	<W 0.001
SEP 9,86	AUG 12,86	0.09	0.35	0.025	0.030	<T 0.020	0.295	<T 0.002
OCT 7,86	SEP 9,86	0.06	0.24	0.030	<T 0.020	0.025	LG 0.055	D 0.032
NOV 4,86	OCT 7,86	0.12	0.62	0.040	0.050	0.035	0.610	<T 0.007
DEC 2,86	NOV 4,86	0.21	0.50	0.100	0.090	0.125	0.120	B 0.048
DEC 30,86	DEC 2,86	0.18	0.29	<T 0.010	<T 0.005	0.035	0.095	<T 0.003

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	JAN 15,86	0.003	0.0018	0.017	0.080	1DT 0.007	< 0.0004	1DT 0.045
FEB 25,86	JAN 28,86	0.002	0.0020	0.017	0.039	1DT 0.003	< 0.0004	1DT 0.066
MAR 25,86	FEB 25,86	0.005	0.0006	1DT 0.007	0.069	0.004	< 0.0004	0.057
APR 22,86	MAR 25,86	0.003	0.0006	1DT 0.006	0.045	1DT 0.006	< 0.0015	0.052
MAY 21,86	APR 22,86	0.007	0.0004	1DT 0.008	0.080	1DT 0.002	< 0.0004	0.076
JUN 17,86	MAY 21,86	0.002	< 0.0002	1DT 0.002	0.031	0.003	< 0.0004	0.021
JUL 15,86	JUN 17,86	0.002	< 0.0002	1DT 0.007	1DT 0.014	1DT 0.002	< 0.0004	0.012
AUG 12,86	JUL 15,86	0.001	< 0.0002	1DT 0.003	D 0.065	1DT 0.001	< 0.0004	0.039
SEP 9,86	AUG 12,86	0.003	< 0.0002	0.014	0.072	0.006	< 0.0004	0.048
OCT 7,86	SEP 9,86	UG 0.019	0.0008	1DT 0.007	B 0.902	0.004	0.0012	B 0.623
NOV 4,86	OCT 7,86	0.003	< 0.0010	1DT 0.010	0.027	1DT 0.005	< 0.0004	0.020
DEC 2,86	NOV 4,86	*****	*****	*****	*****	*****	*****	*****
DEC 30,86	DEC 2,86	< 0.001	< 0.0002	1DT 0.003	0.010	1DT 0.002	< 0.0004	0.012

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MATTAWA/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	JAN 15,86	0.0028	0.00017	0.0832
FEB 25,86	JAN 28,86	0.0038	B 0.00087	0.0550
MAR 25,86	FEB 25,86	0.0007	0.00009	0.0479
APR 22,86	MAR 25,86	0.0009	0.00005	0.0309
MAY 21,86	APR 22,86	0.0007	0.00006	U 0.0013
JUN 17,86	MAY 21,86	1DT 0.0014	< 0.00002	0.0288
JUL 15,86	JUN 17,86	1DT 0.0005	< 0.00002	U 0.0046
AUG 12,86	JUL 15,86	1DT 0.0004	< 0.00002	0.0331
SEP 9,86	AUG 12,86	1DT 0.0010	< 0.00002	0.0776
OCT 7,86	SEP 9,86	1DT 0.0016	< 0.00002	0.0380
NOV 4,86	OCT 7,86	1DT 0.0008	< 0.00002	0.0912
DEC 2,86	NOV 4,86	*****	*****	0.0355
DEC 30,86	DEC 2,86	0.0007	< 0.00002	0.0282

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MCKELLAR/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	815	820	2	65.0	2	35758	2	1	64	
FEB 25,86	JAN 28,86	820	835	2	22.6	2	35778	2	1	U 7	G
MAR 25,86	FEB 25,86	835	810	2	94.7	2	35824	2	1	79	CD
APR 22,86	MAR 25,86	810	800	3	65.7	3	35852	2	1	U 47	GCD H
MAY 20,86	APR 22,86	800	820	1	57.0	3	35880	2	1	66	CD
JUN 17,86	MAY 20,86	820	815	1	112.0	3	35924	2	1	90	
JUL 15,86	JUN 17,86	815	815	1	42.0	3	35988	2	1	89	CD
AUG 12,86	JUL 15,86	815	815	1	76.0	3	36069	2	1	86	CD
SEP 9,86	AUG 12,86	815	815	1	23.0	3	36143	2	1	148	AC N
OCT 7,86	SEP 9,86	815	815	1	141.0	3	36219	2	1	80	
NOV 4,86	OCT 7,86	815	815	1	62.0	3	36314	2	1	95	B
DEC 2,86	NOV 4,86	815	825	3	71.0	2	36391	2	1	U 26	GA
DEC 29,86	DEC 2,86	825	800	2	78.0	2	36483	2	1	63	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	1357.0	41.7	4.18	0.1080	2.75	1.05	0.15
FEB 25,86	JAN 28,86	57.0	43.7	4.21	0.0991	2.70	0.95	D 0.36
MAR 25,86	FEB 25,86	2457.0	23.7	4.35	0.0712	2.65	0.56	0.26
APR 22,86	MAR 25,86	1010.0	U 10.4	U 5.44	U 0.0271	1.55	0.22	0.24
MAY 20,86	APR 22,86	1234.0	27.8	4.37	0.0672	3.30	0.58	0.36
JUN 17,86	MAY 20,86	3305.0	LG 13.8	4.65	0.0392	LG 1.50	0.24	0.13
JUL 15,86	JUN 17,86	1214.0	21.2	4.60	0.0461	3.00	0.44	0.30
AUG 12,86	JUL 15,86	2140.0	17.6	4.57	0.0453	1.75	0.28	0.22
SEP 9,86	AUG 12,86	1106.0	53.5	3.94	0.1390	6.15	0.66	0.27
OCT 7,86	SEP 9,86	3679.0	17.4	4.46	0.0536	1.75	0.26	0.08
NOV 4,86	OCT 7,86	1932.0	25.4	4.34	0.0677	2.45	0.53	0.16
DEC 2,86	NOV 4,86	616.0	17.9	4.65	0.0485	1.15	0.55	0.16
DEC 29,86	DEC 2,86	1617.0	20.8	4.39	0.0628	1.25	0.51	<T 0.06

ONTARIO MINISTRY OF THE ENVIRONMENT
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STATION NAME : MCKELLAR/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE		CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85		0.41	0.70	0.025	0.040	0.235	0.600	0.009
FEB 25,86	JAN 28,86	U	2.94	*****	0.065	D 0.180	U 1.790	0.325	*****
MAR 25,86	FEB 25,86		0.16	0.51	0.035	0.025	0.080	0.415	0.007
APR 22,86	MAR 25,86		0.29	U 2.17	0.050	0.175	0.235	0.430	U 0.052
MAY 20,86	APR 22,86		0.16	0.73	0.070	0.050	0.050	0.625	0.007
JUN 17,86	MAY 20,86		0.12	0.29	0.025	<T 0.005	<T 0.010	0.230	<W 0.001
JUL 15,86	JUN 17,86		0.12	0.84	0.055	0.125	0.040	0.700	0.027
AUG 12,86	JUL 15,86	<T	0.06	0.27	0.040	<T 0.015	0.025	0.200	<T 0.001
SEP 9,86	AUG 12,86		0.12	0.83	0.045	0.035	<T 0.010	0.705	<T 0.005
OCT 7,86	SEP 9,86		0.06	0.17	<T 0.010	<T 0.010	<T 0.020	0.165	<T 0.001
NOV 4,86	OCT 7,86		0.10	0.39	0.040	0.045	0.035	0.430	<T 0.009
DEC 2,86	NOV 4,86		0.17	0.35	0.040	0.030	0.060	0.315	<T 0.008
DEC 29,86	DEC 2,86		0.15	D 0.31	<T 0.015	<T 0.010	0.060	0.210	<T 0.002

REMOVAL DATE	EXPOSURE DATE		MANGANESE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	U	0.060	0.0007	U 0.174	U 1.307	1DT 0.006	U 0.0018	U 1.054
FEB 25,86	JAN 28,86		*****	*****	*****	*****	*****	*****	*****
MAR 25,86	FEB 25,86		0.003	< 0.0002	1DT 0.005	0.031	0.003	< 0.0004	0.031
APR 22,86	MAR 25,86		0.004	0.0008	UG 0.023	0.080	0.004	< 0.0004	0.106
MAY 20,86	APR 22,86		0.004	< 0.0002	1DT 0.010	0.041	< 0.002	< 0.0004	0.046
JUN 17,86	MAY 20,86		0.002	< 0.0002	1DT 0.003	0.026	0.003	< 0.0004	0.020
JUL 15,86	JUN 17,86		0.003	< 0.0002	B 0.029	0.035	< 0.002	< 0.0004	0.030
AUG 12,86	JUL 15,86		0.002	< 0.0002	1DT 0.001	0.016	1DT 0.001	< 0.0004	0.020
SEP 9,86	AUG 12,86		0.003	< 0.0002	0.012	0.027	0.007	D 0.0005	0.025
OCT 7,86	SEP 9,86		0.001	< 0.0002	< 0.001	0.029	1DT 0.001	< 0.0004	1DT 0.008
NOV 4,86	OCT 7,86		0.002	< 0.0002	1DT 0.003	0.017	0.005	< 0.0004	0.013
DEC 2,86	NOV 4,86		0.002	D 0.0009	1DT 0.007	0.044	0.004	< 0.0004	0.031
DEC 29,86	DEC 2,86	<	0.001	< 0.0002	1DT 0.004	0.014	1DT 0.003	< 0.0004	1DT 0.014

ONTARIO MINISTRY OF THE ENVIRONMENT
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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	U 0.0446	U 0.00017	0.0661
FEB 25,86	JAN 28,86	*****	*****	0.0617
MAR 25,86	FEB 25,86	0.0010	0.00009	0.0447
APR 22,86	MAR 25,86	U 0.0126	U 0.00031	U 0.0036
MAY 20,86	APR 22,86	1DT 0.0008	0.00009	0.0427
JUN 17,86	MAY 20,86	D 0.0024	< 0.00002	0.0224
JUL 15,86	JUN 17,86	< 0.0004	< 0.00002	0.0251
AUG 12,86	JUL 15,86	1DT 0.0005	< 0.00002	0.0269
SEP 9,86	AUG 12,86	D 0.0026	D 0.00008	0.1148
OCT 7,86	SEP 9,86	1DT 0.0007	D 0.00004	0.0347
NOV 4,86	OCT 7,86	1DT 0.0006	< 0.00002	0.0457
DEC 2,86	NOV 4,86	1DT 0.0031	0.00010	0.0224
DEC 29,86	DEC 2,86	0.0005	D 0.00009	0.0407

ONTARIO MINISTRY OF THE ENVIRONMENT
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STATION NAME : MOONBEAM/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 29,86	DEC 31,85	1435	1445	2	22.0	2	35760	2	1	76	
MAR 3,86	JAN 29,86	1445	1445	2	28.0	2	35779	2	1	9	NZ
MAR 25,86	MAR 3,86	1445	1445	2	9.8	2	35823	2	1	120	C NCMZ
APR 28,86	MAR 25,86	1445	1435	3	36.6	2	35851	2	1	45	CD NZ
MAY 21,86	APR 28,86	1435	1345	1	27.6	3	35879	2	1	64	CD Z
JUN 20,86	MAY 21,86	1345	1145	1	40.0	3	35923	2	1	97	ACD HZ
JUL 15,86	JUN 20,86	1145	1140	1	50.0	3	35987	2	1	97	CD Z
AUG 12,86	JUL 15,86	1140	1145	1	60.0	3	36071	2	1	98	CD
SEP 9,86	AUG 12,86	1145	1345	1	70.0	3	36145	2	1	83	
OCT 8,86	SEP 9,86	1345	1415	1	60.0	3	36221	2	1	74	A
NOV 5,86	OCT 8,86	1415	1340	1	48.0	2	36316	2	1	68	
DEC 4,86	NOV 5,86	1340	1405	3	43.5	2	36393	2	1	53	
DEC 29,86	DEC 4,86	1405	1348	2	13.5	2	36485	2	1	***	GE Z

REMOVAL DATE	EXPOSURE DATE	VOLUME HL	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAM MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 29,86	DEC 31,85	543.0	15.3	4.73	B 0.4350	1.20	0.37	0.21
MAR 3,86	JAN 29,86	83.0	25.0	UG 7.06	LG 0.0182	5.00	0.38	UG 2.46
MAR 25,86	MAR 3,86	382.0	29.5	U 7.56	U 0.0105	2.50	0.28	U 2.61
APR 28,86	MAR 25,86	542.0	24.2	4.91	0.0354	5.05	0.49	UG 1.10
MAY 21,86	APR 28,86	577.0	17.7	B 5.19	0.0275	3.40	0.45	UG 0.80
JUN 20,86	MAY 21,86	1261.0	9.5	5.14	LG 0.0240	1.35	0.17	0.27
JUL 15,86	JUN 20,86	1575.0	13.2	4.81	0.0351	1.70	0.26	0.25
AUG 12,86	JUL 15,86	1918.0	LG 6.1	4.85	LG 0.0234	B 0.50	0.09	<T 0.04
SEP 9,86	AUG 12,86	1905.0	12.9	4.62	0.0425	1.30	0.10	0.05
OCT 8,86	SEP 9,86	1460.0	10.6	4.97	0.0344	1.75	0.16	0.13
NOV 5,86	OCT 8,86	1075.0	12.2	4.70	0.0369	1.35	0.15	0.14
DEC 4,86	NOV 5,86	757.0	22.8	4.45	0.0653	1.60	0.54	0.12
DEC 29,86	DEC 4,86	*****	*****	*****	*****	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 29,86	DEC 31,85		0.21	0.24	0.050	0.140	0.190	<T 0.005
MAR 3,86	JAN 29,86	UG 0.70	0.24	UG 0.490	0.060	UG 0.480	0.125	0.008
MAR 25,86	MAR 3,86	U 0.45	0.37	U 0.645	0.050	U 0.250	0.155	0.030
APR 28,86	MAR 25,86	0.14	0.89	UG 0.195	0.085	0.110	0.760	0.007
MAY 21,86	APR 28,86	0.13	0.86	UG 0.135	0.070	0.055	0.640	0.012
JUN 20,86	MAY 21,86	0.10	0.38	0.040	D 0.105	D 0.070	0.285	0.021
JUL 15,86	JUN 20,86	<T 0.06	0.43	0.040	0.025	0.025	0.340	<T 0.003
AUG 12,86	JUL 15,86	<T 0.04	0.10	<T 0.010	<T 0.015	<T 0.015	B 0.030	<T 0.001
SEP 9,86	AUG 12,86	<T 0.04	0.11	<T 0.005	<W 0.005	<W 0.005	0.060	D 0.020
OCT 8,86	SEP 9,86	0.06	0.49	0.025	0.055	D 0.040	0.340	D 0.029
NOV 5,86	OCT 8,86	0.11	<T 0.08	0.025	0.045	0.090	0.095	<T 0.006
DEC 4,86	NOV 5,86	0.12	0.29	<T 0.020	0.030	0.070	0.280	<T 0.007
DEC 29,86	DEC 4,86	*****	*****	*****	*****	*****	*****	*****

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 29,86	DEC 31,85	D 0.006	0.0004	1DT 0.008	0.046	1DT 0.005	< 0.0004	0.047
MAR 3,86	JAN 29,86	*****	*****	*****	*****	*****	*****	*****
MAR 25,86	MAR 3,86	0.010	0.0011	1DT 0.010	UG 0.528	0.006	0.0007	U 0.385
APR 28,86	MAR 25,86	0.010	0.0004	1DT 0.009	UG 0.132	0.008	< 0.0004	UG 0.161
MAY 21,86	APR 28,86	0.010	0.0003	1DT 0.026	0.087	1DT 0.004	< 0.0004	0.121
JUN 20,86	MAY 21,86	0.002	< 0.0002	0.007	0.040	0.003	< 0.0004	0.032
JUL 15,86	JUN 20,86	0.002	< 0.0002	< 0.002	0.013	< 0.002	< 0.0004	1DT 0.010
AUG 12,86	JUL 15,86	0.001	< 0.0002	< 0.002	0.010	< 0.002	< 0.0004	0.115
SEP 9,86	AUG 12,86	0.001	< 0.0002	0.015	0.007	0.002	< 0.0005	0.022
OCT 8,86	SEP 9,86	< 0.005	< 0.0002	1DT 0.002	0.018	1DT 0.002	< 0.0004	1DT 0.009
NOV 5,86	OCT 8,86	0.002	0.0003	1DT 0.007	D 0.029	0.021	< 0.0004	0.018
DEC 4,86	NOV 5,86	0.002	D 0.0004	1DT 0.007	0.034	1DT 0.002	< 0.0004	0.028
DEC 29,86	DEC 4,86	*****	*****	*****	*****	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
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STATION NAME : MOONBEAM/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 29,86	DEC 31,85	0.0033	0.00009	0.0186
MAR 3,86	JAN 29,86	*****	*****	UG 0.0001
MAR 25,86	MAR 3,86	0.0011	0.00006	U 0.0000
APR 28,86	MAR 25,86	0.0018	0.00010	0.0123
MAY 21,86	APR 28,86	1DT 0.0010	B 0.00069	B 0.0065
JUN 20,86	MAY 21,86	UG 0.0173	< 0.00002	0.0072
JUL 15,86	JUN 20,86	0.0007	< 0.00002	0.0155
AUG 12,86	JUL 15,86	< 0.0003	< 0.00002	0.0141
SEP 9,86	AUG 12,86	1DT 0.0017	< 0.00002	0.0240
OCT 8,86	SEP 9,86	1DT 0.0008	< 0.00002	0.0107
NOV 5,86	OCT 8,86	1DT 0.0009	B 0.00023	0.0200
DEC 4,86	NOV 5,86	1DT 0.0038	UG 0.00065	0.0355
DEC 29,86	DEC 4,86	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MOOSONEE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 29,85	1400	1300	2	36.5	9	35761	2	1	I 68	Z
FEB 25,86	JAN 28,86	1300	1300	2	3.5	2	35770	2	1	U 253	F
MAR 25,86	FEB 25,86	1300	1300	2	19.5	2	35822	2	1	U 38	F C
APR 28,86	MAR 25,86	1300	1300	3	55.0	9	35850	2	1	I 125	CD Z
JUN 4,86	APR 28,86	1300	1300	1	15.2	9	35878	2	1	U 7	FA Z
JUN 20,86	JUN 4,86	1300	1400	1	22.0	3	35927	2	1	102	CD HCMZ
JUL 15,86	JUN 20,86	1400	1300	1	165.0	3	35992	2	1	85	CD HMZ
AUG 12,86	JUL 15,86	1300	1300	1	65.0	3	36072	2	1	99	CD
SEP 15,86	AUG 12,86	1300	1100	1	95.0	3	36146	2	1	72	ACD Z
OCT 21,86	SEP 15,86	1100	1515	1	75.0	3	36222	2	1	86	D Z
NOV 4,86	OCT 21,86	1515	1100	1	21.6	2	36317	2	1	U 62	G CMZ
DEC 30,86	NOV 4,86	1100	1330	2	78.4	2	36486	2	1	U 2	G HCZ

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 29,85	812.0	20.3	4.57	0.0515	1.30	0.56	0.24
FEB 25,86	JAN 28,86	288.0	22.3	4.34	0.0740	2.35	0.17	LG 0.14
MAR 25,86	FEB 25,86	242.0	18.8	U 7.33	0.0114	1.35	0.21	U 2.40
APR 28,86	MAR 25,86	2245.0	20.6	4.66	0.0441	3.05	0.38	0.52
JUN 4,86	APR 28,86	36.0	*****	U 8.03	*****	*****	*****	*****
JUN 20,86	JUN 4,86	732.0	4.2	5.64	0.0157	LG 0.35	<T 0.03	<T 0.01
JUL 15,86	JUN 20,86	4593.0	9.4	4.85	0.0303	1.25	0.13	0.27
AUG 12,86	JUL 15,86	2107.0	5.3	4.95	0.0225	LG 0.35	0.07	<T 0.04
SEP 15,86	AUG 12,86	2233.0	9.1	4.99	0.0310	1.10	0.08	0.16
OCT 21,86	SEP 15,86	2102.0	13.2	4.85	0.0343	1.10	0.08	<T 0.08
NOV 4,86	OCT 21,86	438.0	14.3	7.12	LG 0.0128	1.10	0.16	1.86
DEC 30,86	NOV 4,86	51.0	10.1	6.21	0.0189	1.30	0.25	0.50

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STATION NAME : MOOSONEE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 28,86	DEC 29,85	0.0026	0.00062	0.0269
FEB 25,86	JAN 28,86	0.0022	0.00022	0.0457
MAR 25,86	FEB 25,86	0.0018	0.00026	U 0.0000
APR 28,86	MAR 25,86	0.0005	0.00018	0.0219
JUN 4,86	APR 28,86	*****	*****	U 0.0000
JUN 20,86	JUN 4,86	UG 0.0065	< 0.00002	0.0023
JUL 15,86	JUN 20,86	< 0.0002	< 0.00002	0.0141
AUG 12,86	JUL 15,86	< 0.0003	< 0.00002	0.0112
SEP 15,86	AUG 12,86	1DT 0.0003	< 0.00020	0.0102
OCT 21,86	SEP 15,86	1DT 0.0003	0.00003	0.0141
NOV 4,86	OCT 21,86	< 0.0007	< 0.00002	0.0001
DEC 30,86	NOV 4,86	*****	*****	0.0006

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : TURKEY LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	1130	1130	2	80.5	9	35763	2	1	I 50	C
FEB 25,86	JAN 28,86	1130	1100	2	66.0	9	35773	2	1	I 38	C N
MAR 25,86	FEB 25,86	1100	1100	2	108.0	2	35820	2	1	65	CD
APR 22,86	MAR 25,86	1100	1030	3	53.3	2	35848	2	1	76	C
MAY 20,86	APR 22,86	1030	900	1	34.5	3	35876	2	1	70	ACD
JUN 17,86	MAY 20,86	900	1000	1	110.0	3	35921	2	1	90	CD
JUL 15,86	JUN 17,86	1000	1200	1	50.0	3	35984	2	1	58	CD
AUG 12,86	JUL 15,86	1200	1000	1	205.0	3	36109	2	1	U 78	CDG
SEP 9,86	AUG 12,86	1000	830	1	152.0	3	36142	2	1	91	C
OCT 7,86	SEP 9,86	830	700	1	185.9	3	36218	2	1	72	A
NOV 4,86	OCT 7,86	700	830	1	105.0	3	36313	2	1	95	
DEC 2,86	NOV 4,86	830	815	3	35.6	2	36390	2	1	U 174	
DEC 30,86	DEC 2,86	815	1030	2	83.4	2	36482	2	1	66	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	1310.0	16.2	4.64	0.0449	1.10	0.34	0.09
FEB 25,86	JAN 28,86	829.0	26.2	4.25	0.0824	2.50	0.30	0.07
MAR 25,86	FEB 25,86	2291.0	25.6	4.33	0.0687	2.30	0.49	0.18
APR 22,86	MAR 25,86	1332.0	16.4	UG 6.53	LG 0.0185	2.95	0.49	B 0.87
MAY 20,86	APR 22,86	786.0	37.8	4.20	0.0928	4.40	UG 0.73	0.66
JUN 17,86	MAY 20,86	3225.0	17.9	4.55	0.0456	2.15	0.28	0.19
JUL 15,86	JUN 17,86	947.0	21.5	4.49	0.0587	2.70	0.39	0.41
AUG 12,86	JUL 15,86	5210.0	11.1	4.87	0.0308	1.20	0.22	0.16
SEP 9,86	AUG 12,86	4520.0	32.8	4.17	0.0900	3.80	0.33	0.11
OCT 7,86	SEP 9,86	4360.0	18.1	4.46	0.0528	2.00	0.22	0.10
NOV 4,86	OCT 7,86	3269.0	25.0	4.33	0.0692	2.50	0.43	0.14
DEC 2,86	NOV 4,86	2015.0	17.7	4.60	0.0529	1.40	0.44	0.12
DEC 30,86	DEC 2,86	1791.0	18.5	4.45	0.0547	1.20	0.47	<T 0.04

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : TURKEY LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.08	0.28	0.020	0.020	0.050	0.235	<T 0.003
FEB 25,86	JAN 28,86	<T 0.06	0.17	<T 0.010	0.045	0.035	0.135	<W 0.001
MAR 25,86	FEB 25,86	0.09	0.38	0.030	0.020	0.030	0.315	0.007
APR 22,86	MAR 25,86	0.14	0.93	0.135	0.065	0.140	0.740	0.016
MAY 20,86	APR 22,86	0.14	0.74	0.100	0.060	0.055	0.570	0.015
JUN 17,86	MAY 20,86	<T 0.05	0.40	0.040	<T 0.020	<T 0.015	0.330	0.008
JUL 15,86	JUN 17,86	0.10	0.35	0.050	0.080	D 0.055	0.290	<T 0.001
AUG 12,86	JUL 15,86	0.07	0.25	0.025	<T 0.020	0.025	0.205	<W 0.001
SEP 9,86	AUG 12,86	0.07	0.49	<T 0.010	<W 0.005	<W 0.005	0.445	<T 0.003
OCT 7,86	SEP 9,86	0.06	0.22	<T 0.010	<T 0.010	0.020	0.200	<T 0.001
NOV 4,86	OCT 7,86	0.06	0.34	0.025	0.030	<T 0.010	0.385	<T 0.004
DEC 2,86	NOV 4,86	0.09	0.32	0.030	0.030	0.040	0.280	<T 0.007
DEC 30,86	DEC 2,86	0.11	0.40	<T 0.020	<T 0.010	0.055	0.245	<T 0.006

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0007	1DT 0.004	0.035	1DT 0.002	< 0.0004	1DT 0.041
FEB 25,86	JAN 28,86	0.001	0.0003	0.012	0.013	1DT 0.003	< 0.0004	1DT 0.022
MAR 25,86	FEB 25,86	0.003	0.0002	1DT 0.004	0.023	0.002	< 0.0004	0.026
APR 22,86	MAR 25,86	0.008	0.0003	0.007	B 0.153	0.006	< 0.0004	UG 0.202
MAY 20,86	APR 22,86	0.009	0.0003	1DT 0.018	0.079	< 0.002	< 0.0004	0.128
JUN 17,86	MAY 20,86	0.004	< 0.0002	1DT 0.003	0.034	0.004	< 0.0004	0.030
JUL 15,86	JUN 17,86	0.005	< 0.0002	0.017	0.085	< 0.002	< 0.0004	0.107
AUG 12,86	JUL 15,86	0.006	< 0.0002	0.006	0.015	< 0.001	< 0.0004	0.019
SEP 9,86	AUG 12,86	0.001	< 0.0002	0.007	0.012	0.005	< 0.0007	0.010
OCT 7,86	SEP 9,86	0.001	< 0.0002	< 0.001	0.021	0.001	< 0.0004	1DT 0.010
NOV 4,86	OCT 7,86	0.002	< 0.0002	1DT 0.004	0.012	0.004	< 0.0004	0.012
DEC 2,86	NOV 4,86	0.006	< 0.0002	1DT 0.002	0.050	1DT 0.003	< 0.0004	0.019
DEC 30,86	DEC 2,86	< 0.001	< 0.0002	1DT 0.003	0.009	1DT 0.002	< 0.0004	0.014

ONTARIO MINISTRY OF THE ENVIRONMENT
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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+
JAN 28,86	DEC 31,85	0.0009	0.00006	0.0229
FEB 25,86	JAN 28,86	0.0014	0.00009	0.0562
MAR 25,86	FEB 25,86	0.0008	0.00005	0.0468
APR 22,86	MAR 25,86	1DT 0.0012	0.00007	UG 0.0003
MAY 20,86	APR 22,86	D 0.0047	0.00010	0.0631
JUN 17,86	MAY 20,86	0.0010	0.00002	0.0282
JUL 15,86	JUN 17,86	< 0.0004	< 0.00002	0.0324
AUG 12,86	JUL 15,86	< 0.0002	0.00003	0.0135
SEP 9,86	AUG 12,86	0.0001	< 0.00002	0.0676
OCT 7,86	SEP 9,86	1DT 0.0002	< 0.00002	0.0347
NOV 4,86	OCT 7,86	< 0.0003	< 0.00002	0.0468
DEC 2,86	NOV 4,86	1DT 0.0004	< 0.00002	0.0251
DEC 30,86	DEC 2,86	< 0.0003	< 0.00002	0.0355

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WHITNEY/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	JAN 2,86	1600	1345	3	48.0	2	29521	2	1	66	Z
FEB 25,86	JAN 28,86	1345	1325	3	27.0	2	29536	2	1	69	
MAR 25,86	FEB 25,86	1325	1330	3	74.0	2	29537	2	1	81	
APR 23,86	MAR 25,86	1330	1635	3	58.0	2	29549	2	1	85	Q
MAY 20,86	APR 23,86	1635	920	1	71.0	3	29558	2	1	86	
JUN 17,86	MAY 20,86	920	1455	1	114.0	3	29576	2	1	76	AQ
JUL 15,86	JUN 17,86	1455	1055	1	55.0	3	29577	2	1	95	CQ M
AUG 12,86	JUL 15,86	1055	1630	1	123.0	3	29596	2	1	71	
SEP 9,86	AUG 12,86	1630	915	1	65.0	3	29597	2	1	90	
OCT 7,86	SEP 9,86	915	915	1	105.0	3	29606	2	1	88	
NOV 4,86	OCT 7,86	915	1340	3	47.0	3	29620	2	1	87	
DEC 2,86	NOV 4,86	1340	825	3	25.0	2	29622	2	1	88	ACQ
DEC 30,86	DEC 2,86	825	1000	3	84.0	2	29639	2	1	U 32	G

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	JAN 2,86	1042.0	46.5	3.98	UG 0.1280	2.90	1.00	0.22
FEB 25,86	JAN 28,86	605.0	26.8	4.17	0.0829	1.30	0.66	0.13
MAR 25,86	FEB 25,86	1965.0	31.9	4.17	0.0835	2.80	0.64	0.27
APR 23,86	MAR 25,86	1619.0	27.3	4.33	0.0706	3.05	0.53	0.27
MAY 20,86	APR 23,86	1998.0	15.8	UG 5.02	LG 0.0293	2.40	0.45	0.64
JUN 17,86	MAY 20,86	2842.0	LG 13.3	4.73	0.0367	LG 1.35	LG 0.21	0.10
JUL 15,86	JUN 17,86	1702.0	43.3	U 7.54	U 0.0200	3.75	0.31	0.24
AUG 12,86	JUL 15,86	2875.0	17.2	4.46	0.0577	2.00	0.30	0.15
SEP 9,86	AUG 12,86	1916.0	41.8	4.03	0.1140	4.35	0.48	0.18
OCT 7,86	SEP 9,86	3033.0	LG 14.8	4.57	0.0457	LG 1.25	0.23	<T 0.08
NOV 4,86	OCT 7,86	1334.0	30.1	4.24	0.0856	2.90	0.52	0.16
DEC 2,86	NOV 4,86	717.0	30.3	4.24	0.0855	2.00	0.74	0.24
DEC 30,86	DEC 2,86	898.0	12.7	4.54	LG 0.0472	0.70	0.26	<T 0.08

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WHITNEY/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	JAN 2,86	0.30	0.50	0.025	D 0.090	0.120	0.350	0.011
FEB 25,86	JAN 28,86	0.16	0.19	<T 0.010	<W 0.005	0.060	0.070	<T 0.002
MAR 25,86	FEB 25,86	0.18	0.51	0.035	<T 0.015	0.075	0.345	<T 0.005
APR 23,86	MAR 25,86	0.11	0.90	0.060	0.105	0.045	0.545	UG 0.078
MAY 20,86	APR 23,86	0.11	0.52	0.125	0.045	0.040	0.435	0.013
JUN 17,86	MAY 20,86	<T 0.03	0.29	0.020	0.020	<T 0.010	0.215	<T 0.002
JUL 15,86	JUN 17,86	0.19	U 5.00	0.080	U 0.880	0.070	U 4.700	U 0.108
AUG 12,86	JUL 15,86	0.07	0.33	0.025	<T 0.010	0.040	0.300	<T 0.002
SEP 9,86	AUG 12,86	0.10	0.37	0.030	<T 0.015	0.025	0.360	<T 0.001
OCT 7,86	SEP 9,86	<T 0.04	LG 0.10	<T 0.015	<T 0.020	<T 0.010	LG 0.115	<T 0.002
NOV 4,86	OCT 7,86	0.06	0.34	<T 0.015	<T 0.005	<T 0.005	0.345	<W 0.002
DEC 2,86	NOV 4,86	0.17	0.44	0.040	0.025	0.065	0.275	0.015
DEC 30,86	DEC 2,86	0.12	0.14	<T 0.005	<W 0.005	0.065	<T 0.020	0.012

REMOVAL DATE	EXPOSURE DATE	MANGANESE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	JAN 2,86	0.002	0.0008	0.004	UG 0.134	1DT 0.005	< 0.0006	0.034
FEB 25,86	JAN 28,86	0.002	< 0.0020	1DT 0.004	0.018	1DT 0.003	< 0.0004	0.053
MAR 25,86	FEB 25,86	0.005	< 0.0002	0.005	0.030	0.003	< 0.0004	0.037
APR 23,86	MAR 25,86	0.004	< 0.0002	1DT 0.006	0.022	< 0.002	< 0.0004	0.026
MAY 20,86	APR 23,86	0.008	< 0.0002	0.006	0.081	0.011	0.0004	0.064
JUN 17,86	MAY 20,86	0.001	< 0.0002	1DT 0.002	0.017	0.002	< 0.0004	0.011
JUL 15,86	JUN 17,86	< 0.001	< 0.0002	0.008	0.077	0.005	< 0.0004	U 0.073
AUG 12,86	JUL 15,86	0.001	< 0.0002	< 0.001	0.021	0.002	< 0.0004	0.017
SEP 9,86	AUG 12,86	0.002	< 0.0002	1DT 0.002	0.026	0.003	< 0.0004	0.019
OCT 7,86	SEP 9,86	D 0.007	< 0.0002	1DT 0.002	1DT 0.008	D 0.013	< 0.0004	0.011
NOV 4,86	OCT 7,86	0.001	< 0.0002	0.003	0.013	0.002	< 0.0004	0.020
DEC 2,86	NOV 4,86	0.003	< 0.0002	0.007	0.034	0.002	< 0.0004	0.033
DEC 30,86	DEC 2,86	0.001	< 0.0002	D 0.017	D 0.024	1DT 0.003	< 0.0004	D 0.039

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WHITNEY/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	JAN 2,86	1DT 0.0014	0.00016	0.1047
FEB 25,86	JAN 28,86	1DT 0.0007	0.00002	0.0676
MAR 25,86	FEB 25,86	1DT 0.0007	0.00009	0.0676
APR 23,86	MAR 25,86	1DT 0.0010	< 0.00002	0.0468
MAY 20,86	APR 23,86	< 0.0003	< 0.00002	UG 0.0095
JUN 17,86	MAY 20,86	< 0.0003	< 0.00002	0.0186
JUL 15,86	JUN 17,86	1DT 0.0006	U 0.00048	U 0.0000
AUG 12,86	JUL 15,86	1DT 0.0008	< 0.00020	0.0347
SEP 9,86	AUG 12,86	1DT 0.0005	< 0.00002	0.0933
OCT 7,86	SEP 9,86	< 0.0003	< 0.00002	0.0269
NOV 4,86	OCT 7,86	D 0.0016	0.00004	0.0575
DEC 2,86	NOV 4,86	0.0020	0.00005	0.0575
DEC 30,86	DEC 2,86	D 0.0029	< 0.00002	0.0288

PART VII

NORTHWESTERN REGION

CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORION/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	904	911	2	39.1	2	13121	2	1	63	
FEB 25,86	JAN 28,86	911	910	2	21.4	2	13123	2	1	73	D C
MAR 25,86	FEB 25,86	916	900	2	33.4	2	13125	2	1	73	
APR 22,86	MAR 25,86	905	902	3	10.4	2	31602	2	1	69	D
MAY 20,86	APR 22,86	912	1030	1	103.7	2	31604	2	1	85	
JUN 17,86	MAY 20,86	1036	900	1	50.8	2	31606	2	1	105	CD HM
JUL 15,86	JUN 17,86	908	909	1	102.0	2	31608	2	1	84	
AUG 12,86	JUL 15,86	915	915	1	67.0	3	31610	2	1	97	CD
SEP 9,86	AUG 12,86	919	900	1	56.0	3	31613	2	1	98	
OCT 7,86	SEP 9,86	900	1051	1	42.0	3	31615	2	1	97	
NOV 4,86	OCT 7,86	1104	909	3	42.3	2	31617	2	1	U 84	AFJ
DEC 2,86	NOV 4,86	914	905	2	70.2	2	31618	2	1	73	C
DEC 30,86	DEC 2,86	910	933	2	11.7	2	31619	2	1	U 65	G

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	809.0	18.2	4.55	0.0512	1.00	0.49	0.10
FEB 25,86	JAN 28,86	512.0	5.9	4.74	0.0416	0.50	0.19	0.07
MAR 25,86	FEB 25,86	793.0	13.7	4.64	0.0403	1.15	0.26	0.11
APR 22,86	MAR 25,86	234.0	42.8	4.18	0.0957	B 5.55	0.81	0.68
MAY 20,86	APR 22,86	2887.0	17.0	4.67	0.0446	2.30	0.36	0.23
JUN 17,86	MAY 20,86	1748.0	7.9	5.17	0.0260	1.15	0.22	0.39
JUL 15,86	JUN 17,86	2792.0	12.1	4.78	0.0346	D 1.70	0.23	D 0.23
AUG 12,86	JUL 15,86	2120.0	8.2	5.10	0.0274	0.75	0.19	0.17
SEP 9,86	AUG 12,86	1782.0	11.4	4.76	0.0426	1.30	0.15	0.14
OCT 7,86	SEP 9,86	1326.0	20.3	4.44	0.0609	D 2.30	0.27	0.22
NOV 4,86	OCT 7,86	1163.0	12.0	4.69	0.0395	1.00	0.21	0.10
DEC 2,86	NOV 4,86	1666.0	33.1	4.20	UG 0.0901	2.60	0.66	0.12
DEC 30,86	DEC 2,86	248.0	21.3	4.29	0.0619	1.30	0.47	*0.10

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORION/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.09	0.31	0.020	0.030	0.070	0.240	0.008
FEB 25,86	JAN 28,86	0.10	0.14	<T 0.005	<T 0.010	0.060	<T 0.010	0.016
MAR 25,86	FEB 25,86	0.17	0.19	0.020	<T 0.015	0.090	0.145	<T 0.003
APR 22,86	MAR 25,86	D 0.42	D 1.07	UG 0.100	0.110	D 0.275	D 0.880	0.015
MAY 20,86	APR 22,86	0.09	0.61	0.040	0.030	0.040	0.520	0.010
JUN 17,86	MAY 20,86	0.07	0.33	0.090	0.040	0.050	0.260	0.011
JUL 15,86	JUN 17,86	0.08	0.39	0.035	0.055	<T 0.015	0.285	<T 0.005
AUG 12,86	JUL 15,86	<T 0.05	0.34	0.025	0.035	0.025	0.190	0.008
SEP 9,86	AUG 12,86	<T 0.04	0.26	0.020	0.020	0.025	0.180	<W 0.001
OCT 7,86	SEP 9,86	0.10	0.40	0.030	0.025	0.045	0.310	<W 0.002
NOV 4,86	OCT 7,86	0.10	<T 0.09	<T 0.015	<W 0.005	<T 0.015	0.095	<T 0.007
DEC 2,86	NOV 4,86	0.10	D 0.55	<T 0.020	0.045	0.045	0.375	<T 0.008
DEC 30,86	DEC 2,86	0.22	0.21	<T 0.015	<T 0.020	0.130	0.155	0.016

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0004	1DT 0.008	0.045	0.004	< 0.0004	1DT 0.043
FEB 25,86	JAN 28,86	< 0.001	0.0010	0.005	0.018	< 0.003	< 0.0004	1DT 0.034
MAR 25,86	FEB 25,86	0.002	0.0002	1DT 0.003	0.023	1DT 0.003	< 0.0004	1DT 0.027
APR 22,86	MAR 25,86	0.015	0.0006	1DT 0.032	UG 0.211	1DT 0.003	< 0.0004	UG 0.237
MAY 20,86	APR 22,86	0.004	< 0.0002	0.005	0.031	0.007	< 0.0004	0.044
JUN 17,86	MAY 20,86	0.005	< 0.0002	0.003	0.032	0.006	< 0.0004	0.033
JUL 15,86	JUN 17,86	0.003	0.0004	0.002	0.018	1DT 0.001	< 0.0004	1DT 0.014
AUG 12,86	JUL 15,86	0.003	< 0.0002	0.003	0.042	0.002	0.0004	0.033
SEP 9,86	AUG 12,86	0.002	< 0.0002	1DT 0.006	0.035	0.005	< 0.0004	0.029
OCT 7,86	SEP 9,86	0.001	0.0027	UG 0.019	0.019	0.007	< 0.0004	1DT 0.010
NOV 4,86	OCT 7,86	< 0.001	< 0.0002	1DT 0.002	0.019	< 0.002	< 0.0004	0.021
DEC 2,86	NOV 4,86	0.002	0.0003	0.005	0.025	0.003	< 0.0004	0.012
DEC 30,86	DEC 2,86	< 0.001	< 0.0002	1DT 0.009	0.025	1DT 0.005	< 0.0004	0.054

ONTARIO MINISTRY OF THE ENVIRONMENT
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 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORION/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	0.0011	0.00011	0.0282
FEB 25,86	JAN 28,86	0.0009	0.00007	0.0182
MAR 25,86	FEB 25,86	0.0007	0.00006	0.0229
APR 22,86	MAR 25,86	1DT 0.0018	0.00024	0.0661
MAY 20,86	APR 22,86	< 0.0003	< 0.00002	0.0214
JUN 17,86	MAY 20,86	0.0009	< 0.00002	0.0068
JUL 15,86	JUN 17,86	< 0.0003	< 0.00002	0.0166
AUG 12,86	JUL 15,86	< 0.0003	B 0.00114	0.0079
SEP 9,86	AUG 12,86	0.0039	< 0.00002	0.0174
OCT 7,86	SEP 9,86	B 0.0131	UG 0.00022	0.0363
NOV 4,86	OCT 7,86	1DT 0.0020	< 0.00002	0.0204
DEC 2,86	NOV 4,86	1DT 0.0037	0.00016	0.0631
DEC 30,86	DEC 2,86	0.0032	B 0.00094	0.0513

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EAR FALL'S/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	855	945	2	4.3	2	13598	2	1	U 175	FJ
FEB 26,86	JAN 28,86	945	815	2	43.0	2	13599	2	1	30	D N
MAR 25,86	FEB 26,86	815	835	2	13.7	2	13600	2	1	68	
APR 23,86	MAR 25,86	835	900	3	29.7	2	13601	2	1	64	
MAY 21,86	APR 23,86	1000	900	1	85.6	2	13602	2	1	U 18	G
JUN 18,86	MAY 21,86	900	830	1	15.0	2	13603	2	1	U 82	ACGQ HCM
JUL 15,86	JUN 18,86	830	900	1	55.0	3	13605	2	1	34	N
AUG 12,86	JUL 15,86	900	900	1	80.0	3	13606	2	1	86	CD C
SEP 9,86	AUG 12,86	900	930	1	60.0	3	13607	2	1	98	CD
OCT 7,86	SEP 9,86	930	1000	1	100.0	3	13608	2	1	91	
NOV 4,86	OCT 7,86	1000	1030	3	8.6	2	13609	2	1	78	
DEC 2,86	NOV 4,86	1030	1030	2	60.5	2	13610	2	1	64	C
DEC 30,86	DEC 2,86	1030	915	2	21.8	2	13611	2	1	36	N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	245.0	15.8	4.64	0.0490	1.05	0.43	0.14
FEB 26,86	JAN 28,86	419.0	11.7	4.66	0.0387	0.65	0.24	0.04
MAR 25,86	FEB 26,86	304.0	9.9	5.09	0.0265	1.40	0.20	0.29
APR 23,86	MAR 25,86	625.0	12.3	UG 5.83	0.0195	2.10	0.38	0.63
MAY 21,86	APR 23,86	523.0	10.7	D 5.12	0.0253	1.35	0.31	0.40
JUN 18,86	MAY 21,86	404.0	U 44.0	U 7.25	U 0.0370	U 2.75	U 0.48	U 3.37
JUL 15,86	JUN 18,86	610.0	7.1	5.96	0.0160	0.90	0.21	0.15
AUG 12,86	JUL 15,86	2245.0	6.0	5.17	0.0262	0.45	0.11	0.09
SEP 9,86	AUG 12,86	1910.0	6.0	5.29	0.0230	0.80	0.13	0.11
OCT 7,86	SEP 9,86	2958.0	6.4	5.07	0.0282	0.60	0.09	<T 0.04
NOV 4,86	OCT 7,86	220.0	15.6	6.04	0.0206	2.40	UG 0.56	UG 0.82
DEC 2,86	NOV 4,86	1265.0	8.2	4.90	0.0327	0.65	0.16	0.12
DEC 30,86	DEC 2,86	259.0	14.5	4.53	0.0387	1.15	0.34	0.22

ONTARIO MINISTRY OF THE ENVIRONMENT
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APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EAR FALL'S/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.26	0.35	0.020	0.025	0.225	0.290	0.024
FEB 26,86	JAN 28,86	0.15	0.12	<T 0.010	<T 0.010	0.105	0.020	0.017
MAR 25,86	FEB 26,86	0.17	0.31	0.040	<T 0.015	0.115	0.225	0.008
APR 23,86	MAR 25,86	0.13	0.65	UG 0.090	0.060	0.095	0.485	0.010
MAY 21,86	APR 23,86	D 0.16	0.42	0.065	0.050	D 0.120	0.210	D 0.024
JUN 18,86	MAY 21,86	U 0.30	U 2.05	U 0.540	U 1.210	0.110	U 1.020	U 0.495
JUL 15,86	JUN 18,86	0.15	0.60	0.030	0.090	D 0.125	0.320	0.026
AUG 12,86	JUL 15,86	<T 0.03	0.17	<T 0.015	<T 0.010	<W 0.005	0.095	<T 0.003
SEP 9,86	AUG 12,86	<T 0.02	0.24	0.030	0.020	<T 0.005	0.160	<W 0.001
OCT 7,86	SEP 9,86	0.06	0.15	<T 0.010	<T 0.005	<W 0.005	0.090	<W 0.002
NOV 4,86	OCT 7,86	0.17	0.80	0.140	0.120	UG 0.135	0.565	0.031
DEC 2,86	NOV 4,86	0.05	<T 0.07	<T 0.015	<T 0.010	<T 0.025	0.050	<T 0.006
DEC 30,86	DEC 2,86	0.21	0.32	0.035	<T 0.020	0.120	0.145	<T 0.013

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0014	L 0.007	L 0.055	L 0.004	< 0.0004	L 0.043
FEB 26,86	JAN 28,86	0.001	0.0004	1DT 0.005	0.022	< 0.003	< 0.0004	1DT 0.047
MAR 25,86	FEB 26,86	0.003	0.0024	1DT 0.009	0.057	0.008	< 0.0004	0.071
APR 23,86	MAR 25,86	0.011	0.0005	1DT 0.005	0.174	< 0.003	< 0.0004	UG 0.229
MAY 21,86	APR 23,86	0.013	< 0.0002	UG 0.011	0.053	< 0.003	< 0.0004	0.042
JUN 18,86	MAY 21,86	U 0.230	U 0.0020	U 0.029	U 0.201	U 0.022	U 0.0014	U 0.498
JUL 15,86	JUN 18,86	D 0.005	D 0.0008	1DT 0.019	0.072	1DT 0.002	< 0.0004	D 0.073
AUG 12,86	JUL 15,86	0.001	< 0.0002	0.003	0.018	0.002	< 0.0004	0.020
SEP 9,86	AUG 12,86	0.002	< 0.0002	0.005	0.027	0.002	< 0.0004	0.029
OCT 7,86	SEP 9,86	< 0.001	< 0.0002	< 0.001	0.006	1DT 0.001	< 0.0004	1DT 0.009
NOV 4,86	OCT 7,86	0.012	< 0.0002	1DT 0.013	0.066	< 0.006	< 0.0004	0.065
DEC 2,86	NOV 4,86	0.002	< 0.0002	0.008	0.021	1DT 0.002	< 0.0004	1DT 0.013
DEC 30,86	DEC 2,86	0.005	< 0.0002	1DT 0.009	0.037	1DT 0.004	< 0.0004	0.082

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EAR FALL'S/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE		COPPER MG/L		CADMIUM MG/L		FREE H+ MG/L
JAN 28,86	DEC 31,85	L	0.0036	D	0.00033		0.0229
FEB 26,86	JAN 28,86		0.0015	B	0.00067		0.0219
MAR 25,86	FEB 26,86		0.0022		0.00018		0.0081
APR 23,86	MAR 25,86	<	0.0005		0.00006	UG	0.0015
MAY 21,86	APR 23,86	<	0.0006		0.00005	D	0.0076
JUN 18,86	MAY 21,86	U	0.0054	U	0.00013	U	0.0001
JUL 15,86	JUN 18,86	<	0.0005	D	0.00010		0.0011
AUG 12,86	JUL 15,86	<	0.0003	<	0.00002		0.0068
SEP 9,86	AUG 12,86	1DT	0.0005	<	0.00002		0.0051
OCT 7,86	SEP 9,86	1DT	0.0005		0.00002		0.0085
NOV 4,86	OCT 7,86	<	0.0011	<	0.00002		0.0009
DEC 2,86	NOV 4,86		0.0014	<	0.00002		0.0126
DEC 30,86	DEC 2,86		0.0019		0.00002		0.0295

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EXP. LAKES AREA/CUMULATIVE PRECIP. #34

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	900	900	3	11.9	2	13208	2	1	35	N
FEB 25,86	JAN 28,86	900	930	2	22.4	2	13209	2	1	27	N
MAR 25,86	FEB 25,86	930	1000	2	20.7	2	13210	2	1	32	N
APR 22,86	MAR 25,86	1000	1000	3	30.1	2	13211	2	1	68	
MAY 27,86	APR 22,86	1000	1720	1	58.6	2	13212	2	1	I 147	NHCZ
JUN 17,86	MAY 27,86	1720	900	1	7.0	2	13213	2	1	U 174	Z
JUL 15,86	JUN 17,86	900	900	1	99.0	2	13214	2	1	81	H
AUG 12,86	JUL 15,86	925	900	1	56.0	3	13215	2	1	95	C
SEP 10,86	AUG 12,86	900	930	1	100.0	3	13216	2	1	81	CDB
OCT 7,86	SEP 10,86	930	1000	1	55.4	3	13217	2	1	93	C
NOV 4,86	OCT 7,86	1000	930	3	7.8	2	13218	2	1	51	
DEC 2,86	NOV 4,86	930	930	2	72.4	2	13219	2	1	U 24	IF
JAN 1,87	DEC 2,86	930	1900	2	15.8	2	13220	2	1	31	NZ

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	138.0	20.2	4.57	0.0558	1.20	0.67	D 0.25
FEB 25,86	JAN 28,86	201.0	14.9	4.57	0.0441	0.95	0.34	0.11
MAR 25,86	FEB 25,86	217.0	12.8	4.81	0.0352	1.50	0.32	0.32
APR 22,86	MAR 25,86	667.0	17.9	4.51	0.0491	2.15	0.31	0.32
MAY 27,86	APR 22,86	2801.0	5.7	5.70	0.0165	0.60	0.12	LG 0.05
JUN 17,86	MAY 27,86	396.0	14.2	U 7.00	0.0197	2.20	0.43	U 1.21
JUL 15,86	JUN 17,86	2623.0	6.8	5.96	0.0160	0.80	0.24	0.11
AUG 12,86	JUL 15,86	1745.0	6.6	5.69	0.0209	0.65	0.16	0.21
SEP 10,86	AUG 12,86	2658.0	6.8	5.78	0.0208	1.00	0.16	0.16
OCT 7,86	SEP 10,86	1688.0	6.2	5.69	0.0213	0.85	0.15	0.28
NOV 4,86	OCT 7,86	131.0	U 26.2	U 6.90	0.0201	UG 3.90	UG 0.97	U 2.01
DEC 2,86	NOV 4,86	572.0	8.6	5.15	0.0342	1.05	0.20	D 0.24
JAN 1,87	DEC 2,86	161.0	10.3	4.80	0.0314	0.95	0.34	0.28

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EXP. LAKES AREA/CUMULATIVE PRECIP. #34

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.36	0.35	0.025	<T 0.015	0.255	0.380	0.044
FEB 25,86	JAN 28,86	0.15	0.14	<T 0.015	0.020	0.105	D 0.090	0.029
MAR 25,86	FEB 25,86	0.24	0.37	0.030	<W 0.005	0.180	0.285	0.027
APR 22,86	MAR 25,86	0.11	0.37	0.035	<T 0.015	0.065	0.270	0.011
MAY 27,86	APR 22,86	<T 0.03	0.23	<T 0.010	<T 0.010	0.025	0.195	0.012
JUN 17,86	MAY 27,86	0.09	0.95	U 0.210	0.095	0.060	0.460	0.055
JUL 15,86	JUN 17,86	0.07	0.47	0.025	0.040	0.025	0.360	0.007
AUG 12,86	JUL 15,86	<T 0.04	0.27	0.025	0.025	0.025	0.180	<T 0.005
SEP 10,86	AUG 12,86	<T 0.02	0.38	0.025	0.025	<T 0.015	D 0.330	<W 0.001
OCT 7,86	SEP 10,86	<T 0.03	0.26	<T 0.020	<T 0.015	<W 0.005	0.185	<W 0.002
NOV 4,86	OCT 7,86	0.14	U 1.75	U 0.250	0.170	0.055	U 1.300	U 0.085
DEC 2,86	NOV 4,86	0.13	<T 0.20	D 0.055	<T 0.005	0.085	0.120	<T 0.010
JAN 1,87	DEC 2,86	0.24	*****	0.050	<T 0.020	0.165	0.190	*****

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0005	1DT 0.010	0.030	1DT 0.006	< 0.0004	1DT 0.086
FEB 25,86	JAN 28,86	0.001	B 0.0030	< 0.006	0.019	< 0.006	< 0.0004	1DT 0.063
MAR 25,86	FEB 25,86	0.002	< 0.0002	1DT 0.009	0.025	1DT 0.005	< 0.0004	1DT 0.073
APR 22,86	MAR 25,86	0.005	< 0.0002	0.015	0.053	0.003	< 0.0004	0.057
MAY 27,86	APR 22,86	0.002	< 0.0002	1DT 0.006	0.011	1DT 0.002	< 0.0004	0.021
JUN 17,86	MAY 27,86	0.015	0.0003	1DT 0.010	0.095	0.014	0.0007	0.143
JUL 15,86	JUN 17,86	0.003	< 0.0002	< 0.001	0.037	1DT 0.001	< 0.0004	0.029
AUG 12,86	JUL 15,86	0.003	< 0.0002	1DT 0.005	1DT 0.008	0.004	< 0.0004	0.013
SEP 10,86	AUG 12,86	0.002	< 0.0002	0.004	0.053	0.002	0.0004	0.020
OCT 7,86	SEP 10,86	< 0.001	< 0.0002	< 0.002	0.015	1DT 0.002	< 0.0004	0.017
NOV 4,86	OCT 7,86	0.014	< 0.0002	1DT 0.022	0.157	0.010	< 0.0004	UG 0.211
DEC 2,86	NOV 4,86	D 0.006	0.0004	1DT 0.004	0.030	1DT 0.003	< 0.0004	0.145
JAN 1,87	DEC 2,86	0.007	< 0.0002	1DT 0.014	D 0.091	1DT 0.005	< 0.0004	0.104

ONTARIO MINISTRY OF THE ENVIRONMENT
 CUMULATIVE SAMPLING ANALYSIS RESULTS
 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EXP. LAKES AREA/CUMULATIVE PRECIP. #34

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	1DT 0.0018	0.00009	0.0269
FEB 25,86	JAN 28,86	1DT 0.0027	0.00004	0.0269
MAR 25,86	FEB 25,86	0.0016	0.00004	0.0155
APR 22,86	MAR 25,86	1DT 0.0040	< 0.00002	0.0309
MAY 27,86	APR 22,86	< 0.0003	UG 0.00014	0.0020
JUN 17,86	MAY 27,86	1DT 0.0030	< 0.00002	U 0.0001
JUL 15,86	JUN 17,86	1DT 0.0003	< 0.00002	0.0011
AUG 12,86	JUL 15,86	1DT 0.0009	< 0.00002	0.0020
SEP 10,86	AUG 12,86	0.0036	< 0.00002	0.0017
OCT 7,86	SEP 10,86	1DT 0.0006	0.00009	0.0020
NOV 4,86	OCT 7,86	1DT 0.0021	< 0.00002	U 0.0001
DEC 2,86	NOV 4,86	1DT 0.0018	0.00011	0.0071
JAN 1,87	DEC 2,86	0.0014	< 0.00002	0.0158

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GERALDTON/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 30,86	JAN 1,86	1130	1640	2	32.6	9	13342	2	1	U 6	G
FEB 25,86	JAN 30,86	1640	1635	2	39.6	2	13343	2	1	U 62	DG Z
MAR 25,86	FEB 25,86	1635	1430	2	22.1	9	13344	2	1	I 30	
APR 23,86	MAR 25,86	1430	1500	1	49.3	2	13346	2	1	31	N
MAY 20,86	APR 23,86	1500	1030	1	62.5	2	13347	2	1	54	
JUN 17,86	MAY 20,86	1030	2140	1	89.9	9	13348	2	1	U 74	QP
JUL 15,86	JUN 17,86	2140	1000	1	155.0	5	13349	2	1	52	Q
AUG 12,86	JUL 15,86	1000	1000	1	51.0	3	13350	2	1	U 94	PGQ C
SEP 9,86	AUG 12,86	1000	955	1	63.0	3	13351	2	1	77	CD
OCT 7,86	SEP 9,86	955	1000	1	85.0	3	13353	2	1	88	
NOV 4,86	OCT 7,86	1000	1045	3	33.9	2	13354	2	1	86	
DEC 2,86	NOV 4,86	1045	1000	3	52.0	2	13356	2	1	U 48	FJG
DEC 30,86	DEC 2,86	1000	1630	2	30.9	2	13358	2	1	26	N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 30,86	JAN 1,86	67.0	12.9	U	6.39	U 0.0223	<W 0.01	0.11
FEB 25,86	JAN 30,86	800.0	10.5		4.65	0.0370	0.14	0.06
MAR 25,86	FEB 25,86	218.0	8.5		5.05	0.0277	1.15 LG 0.08	0.30
APR 23,86	MAR 25,86	503.0	20.0		4.55	0.0497	2.85 0.37	0.52
MAY 20,86	APR 23,86	1116.0	16.0		4.72	0.0405	2.20 0.38	0.35
JUN 17,86	MAY 20,86	2168.0	8.9	U	6.76	U 0.0200	1.15 0.17	0.25
JUL 15,86	JUN 17,86	2643.0	12.7	U	7.07	U 0.0222	0.95 0.18	0.10
AUG 12,86	JUL 15,86	1561.0	5.0	U	6.33	U 0.0235	0.45 <T 0.05	0.20
SEP 9,86	AUG 12,86	1576.0	12.3		4.66	0.0384	1.30 0.12	0.10
OCT 7,86	SEP 9,86	2433.0	10.8		4.67	0.0432	1.30 0.16	0.10
NOV 4,86	OCT 7,86	953.0	14.3		4.63	0.0471	1.35 0.23	0.17
DEC 2,86	NOV 4,86	818.0	16.2		4.55	0.0564	1.25 0.26	0.10
DEC 30,86	DEC 2,86	266.0	9.8		4.64	0.0390	0.50 0.25	<T 0.08

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GERALDTON/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE		CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 30,86	JAN 1,86	U	2.08	*****	0.035	U 0.325	U 1.570	<T 0.005	*****
FEB 25,86	JAN 30,86		0.10	D 0.38	0.015	<T 0.005	0.065	<W 0.005	0.006
MAR 25,86	FEB 25,86		0.24	0.31	0.050	<T 0.015	0.185	<T 0.005	0.032
APR 23,86	MAR 25,86		0.17	0.55	0.070	0.045	0.135	0.365	0.011
MAY 20,86	APR 23,86		0.10	0.59	0.055	0.035	0.050	0.490	0.007
JUN 17,86	MAY 20,86		0.07	U 1.60	0.055	0.185	0.055	U 0.670	U 0.134
JUL 15,86	JUN 17,86		0.18	U 1.73	0.035	U 0.310	0.065	U 1.250	U 0.185
AUG 12,86	JUL 15,86	U	0.21	U 1.51	0.035	U 0.125	U 0.210	<T 0.005	0.013
SEP 9,86	AUG 12,86	<T	0.04	0.16	0.015	<W 0.005	0.020	0.110	<W 0.001
OCT 7,86	SEP 9,86		0.07	0.21	<T 0.015	<T 0.010	0.030	0.170	<W 0.002
NOV 4,86	OCT 7,86		0.17	0.18	<T 0.020	<T 0.005	0.105	0.140	0.020
DEC 2,86	NOV 4,86	D	0.31	0.28	<T 0.015	<W 0.005	0.235	0.040	D 0.053
DEC 30,86	DEC 2,86		0.18	0.24	<T 0.010	<W 0.005	0.110	<T 0.005	0.020

REMOVAL DATE	EXPOSURE DATE		MANGANESE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 30,86	JAN 1,86		*****	*****	*****	*****	*****	*****	*****
FEB 25,86	JAN 30,86	<	0.001	0.0002	1DT 0.005	0.012	< 0.002	< 0.0004	1DT 0.020
MAR 25,86	FEB 25,86		0.005	0.0014	1DT 0.013	0.057	1DT 0.010	< 0.0004	1DT 0.103
APR 23,86	MAR 25,86		0.008	0.0003	1DT 0.009	0.089	< 0.003	< 0.0004	0.132
MAY 20,86	APR 23,86		0.007	D 0.0003	UG 0.011	0.052	0.012	< 0.0004	0.041
JUN 17,86	MAY 20,86		0.007	< 0.0002	1DT 0.004	0.027	0.007	< 0.0004	0.032
JUL 15,86	JUN 17,86		0.003	< 0.0002	UG 0.012	0.024	< 0.001	< 0.0004	0.019
AUG 12,86	JUL 15,86		0.002	0.0002	B 0.043	0.043	0.009	< 0.0004	0.024
SEP 9,86	AUG 12,86		0.001	< 0.0002	0.005	0.012	0.002	< 0.0004	0.048
OCT 7,86	SEP 9,86	<	0.001	< 0.0002	1DT 0.001	D 0.040	1DT 0.002	< 0.0004	1DT 0.013
NOV 4,86	OCT 7,86		0.001	< 0.0002	1DT 0.003	0.015	1DT 0.003	< 0.0004	0.022
DEC 2,86	NOV 4,86	<	0.001	< 0.0002	< 0.002	0.027	0.003	< 0.0004	0.042
DEC 30,86	DEC 2,86	<	0.001	< 0.0002	1DT 0.007	0.021	1DT 0.003	< 0.0004	0.039

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GERALDTON/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+	MG/L
JAN 30,86	JAN 1,86	*****	*****	U	0.0004
FEB 25,86	JAN 30,86	0.0010	0.00016		0.0224
MAR 25,86	FEB 25,86	0.0021	0.00011		0.0089
APR 23,86	MAR 25,86	< 0.0006	0.00015		0.0282
MAY 20,86	APR 23,86	1DT 0.0028	UG 0.00015		0.0191
JUN 17,86	MAY 20,86	U 0.0125	< 0.00002	U	0.0002
JUL 15,86	JUN 17,86	1DT 0.0004	< 0.00002	U	0.0001
AUG 12,86	JUL 15,86	U 0.0020	0.00008	U	0.0005
SEP 9,86	AUG 12,86	1DT 0.0005	< 0.00002		0.0219
OCT 7,86	SEP 9,86	1DT 0.0007	< 0.00002		0.0214
NOV 4,86	OCT 7,86	< 0.0004	< 0.00002		0.0234
DEC 2,86	NOV 4,86	0.0017	0.00007		0.0282
DEC 30,86	DEC 2,86	0.0042	< 0.00002		0.0229

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LAC LA CROIX/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD	OFFICE
JAN 28,86	DEC 31,85	920	930	2	19.4	2	95087	2	1	59		
APR 1,86	JAN 28,86	930	955	3	27.2	2	95088	2	1	117	C	Z
MAY 6,86	APR 1,86	955	2000	1	49.4	2	95089	2	1	166	ACD	NZ
MAY 22,86	MAY 6,86	2000	2000	1	98.8	2	95090	2	1	35		NZ
JUN 17,86	MAY 22,86	2000	900	1	48.1		95091	2	1	97	C	HMZ
JUL 15,86	JUN 17,86	900	800	1	150.0	2	95092	2	1	57	CD	
AUG 12,86	JUL 15,86	800	800	1	32.2	9	95093	2	1	I 117		HM
SEP 9,86	AUG 12,86	800	800	1	60.2	9	95094	2	1	U 63	G	H
OCT 7,86	SEP 9,86	800	800	3	32.1	3	95095	2	1	U 52	GA	
NOV 4,86	OCT 7,86	800	800	3	21.6	2	95096	2	1	U 15	G	H
DEC 2,86	NOV 4,86	800	800	3	32.0	2	95097	2	1	87		
DEC 30,86	DEC 2,86	800	800	2	33.3	2	95098	2	1	8		N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	374.0	12.4	4.63	0.0454	0.55	0.34	0.11
APR 1,86	JAN 28,86	1034.0	8.1	5.02	0.0298	0.80	0.25	0.25
MAY 6,86	APR 1,86	2666.0	10.9	5.34	0.0231	1.90	0.25	0.21
MAY 22,86	MAY 6,86	1127.0	15.8	4.57	0.0441	1.70	0.29	0.11
JUN 17,86	MAY 22,86	1527.0	21.2	U 6.79	0.0376	2.60	<W 0.01	U 1.01
JUL 15,86	JUN 17,86	2776.0	7.6	5.41	0.0212	1.00	0.23	0.16
AUG 12,86	JUL 15,86	1231.0	7.0	4.97	0.0304	0.75	0.16	0.24
SEP 9,86	AUG 12,86	1239.0	7.6	5.47	0.0248	1.25	0.08	0.16
OCT 7,86	SEP 9,86	547.0	10.7	4.85	0.0356	1.10	0.21	0.14
NOV 4,86	OCT 7,86	107.0	11.3	U 6.09	0.0210	1.45	0.22	0.54
DEC 2,86	NOV 4,86	904.0	18.3	4.49	0.0555	1.50	0.35	<T 0.08
DEC 30,86	DEC 2,86	87.0	15.8	4.58	0.0561	1.15	0.34	0.30

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LAC LA CROIX/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.13	0.56	0.015	<T 0.015	0.075	0.045	0.013
APR 1,86	JAN 28,86	0.11	0.80	0.050	0.045	0.075	0.100	UG 0.095
MAY 6,86	APR 1,86	0.08	0.82	0.035	0.035	0.030	0.590	0.025
MAY 22,86	MAY 6,86	0.13	0.38	0.025	0.040	0.065	0.285	0.013
JUN 17,86	MAY 22,86	U 1.72	U 4.50	U 0.585	U 2.440	U 0.455	U 0.560	U 1.300
JUL 15,86	JUN 17,86	0.07	0.46	0.030	0.055	<T 0.020	0.360	<T 0.005
AUG 12,86	JUL 15,86	<T 0.03	0.21	0.035	<T 0.015	<T 0.010	0.120	<W 0.001
SEP 9,86	AUG 12,86	B 0.20	> 2.09	0.035	D 0.205	B 0.265	0.190	<W 0.001
OCT 7,86	SEP 9,86	0.06	0.36	<T 0.025	<T 0.015	<T 0.005	0.230	<W 0.002
NOV 4,86	OCT 7,86	B 0.78	*****	0.095	B 0.425	B 0.840	<T 0.010	*****
DEC 2,86	NOV 4,86	0.07	0.18	<T 0.015	<T 0.005	0.045	0.220	<T 0.005
DEC 30,86	DEC 2,86	D 0.48	*****	0.040	<T 0.010	D 0.370	<T 0.010	*****

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	D 0.001	0.0010	0.006	0.029	< 0.004	< 0.0004	1DT 0.063
APR 1,86	JAN 28,86	*****	*****	*****	*****	*****	*****	*****
MAY 6,86	APR 1,86	0.007	< 0.0002	0.004	0.124	0.005	< 0.0004	0.069
MAY 22,86	MAY 6,86	0.003	< 0.0002	0.007	0.029	UG 0.025	< 0.0004	0.028
JUN 17,86	MAY 22,86	U 0.010	0.0003	0.003	0.022	0.007	0.0004	0.030
JUL 15,86	JUN 17,86	0.003	< 0.0002	1DT 0.003	0.027	1DT 0.001	< 0.0004	1DT 0.026
AUG 12,86	JUL 15,86	0.003	< 0.0002	0.007	0.032	0.002	< 0.0004	0.036
SEP 9,86	AUG 12,86	0.002	D 0.0005	B 0.015	0.051	0.006	0.0004	0.045
OCT 7,86	SEP 9,86	< 0.001	0.0019	1DT 0.021	0.019	0.009	< 0.0004	0.016
NOV 4,86	OCT 7,86	0.009	D 0.0014	1DT 0.053	0.112	0.012	< 0.0004	0.122
DEC 2,86	NOV 4,86	0.001	< 0.0002	1DT 0.002	0.023	1DT 0.002	< 0.0004	0.020
DEC 30,86	DEC 2,86	*****	*****	*****	*****	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LAC LA CROIX/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	D 0.0075	0.00011	0.0234
APR 1,86	JAN 28,86	*****	*****	0.0095
MAY 6,86	APR 1,86	0.0020	0.00004	0.0046
MAY 22,86	MAY 6,86	1DT 0.0008	0.00006	0.0269
JUN 17,86	MAY 22,86	U 0.0079	0.00003	U 0.0002
JUL 15,86	JUN 17,86	< 0.0003	< 0.00002	0.0039
AUG 12,86	JUL 15,86	< 0.0004	< 0.00002	0.0107
SEP 9,86	AUG 12,86	0.0039	< 0.00002	0.0034
OCT 7,86	SEP 9,86	1DT 0.0006	0.00008	0.0141
NOV 4,86	OCT 7,86	B 0.0201	B 0.00157	U 0.0008
DEC 2,86	NOV 4,86	0.0018	0.00008	0.0324
DEC 30,86	DEC 2,86	*****	*****	0.0263

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : OTTER ISLAND/CUMULATIVE PRECIP. #38

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
MAY 20,86	APR 22,86	900	900	1	27.0	0	31017	2	1	84	Q
JUN 17,86	MAY 20,86	900	900	1	52.0	0	31018	2	1	83	AC HM
JUL 15,86	JUN 17,86	1100	900	1	61.0	0	31020	2	1	U 89	FC
AUG 12,86	JUL 15,86	900	900	1	81.0	0	31021	2	1	85	CD
SEP 9,86	AUG 12,86	900	900	1	88.0	0	31022	2	1	U 86	G
OCT 7,86	SEP 9,86	900	900	1	47.0	0	31024	2	1	85	
NOV 4,86	OCT 7,86	900	900	3	92.0	0	31025	2	1	U 31	G

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
MAY 20,86	APR 22,86	739.0	28.7	4.48	0.0582	4.75	0.70	UG 0.94
JUN 17,86	MAY 20,86	1405.0	14.4	4.73	0.0421	1.95	0.29	D 0.55
JUL 15,86	JUN 17,86	1779.0	22.5	4.49	0.0565	3.00	0.37	0.38
AUG 12,86	JUL 15,86	2256.0	10.6	5.07	0.0276	1.20	0.24	0.28
SEP 9,86	AUG 12,86	2482.0	25.3	4.32	0.0739	2.80	0.29	0.19
OCT 7,86	SEP 9,86	1298.0	23.9	4.29	0.0762	2.85	0.41	0.20
NOV 4,86	OCT 7,86	943.0	LG 4.4	5.10	LG 0.0251	LG 0.50	0.10	0.16

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : OTTER ISLAND/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
MAY 20,86	APR 22,86	0.16	0.89	UG 0.160	0.055	0.055	0.810	0.006
JUN 17,86	MAY 20,86	<T 0.06	0.45	D 0.090	0.030	0.020	0.350	0.019
JUL 15,86	JUN 17,86	0.08	0.56	0.055	0.050	<T 0.020	0.440	<T 0.002
AUG 12,86	JUL 15,86	0.07	0.34	0.040	0.020	0.030	0.250	<T 0.005
SEP 9,86	AUG 12,86	<T 0.06	0.32	0.030	<T 0.010	<T 0.005	0.290	<W 0.001
OCT 7,86	SEP 9,86	0.10	0.44	0.030	<T 0.010	<T 0.020	0.350	<W 0.002
NOV 4,86	OCT 7,86	<T 0.03	<T 0.05	<T 0.015	<W 0.005	<W 0.005	0.060	<T 0.005

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
MAY 20,86	APR 22,86	UG 0.015	0.0003	0.011	0.124	B 0.025	< 0.0004	0.115
JUN 17,86	MAY 20,86	0.006	< 0.0002	1DT 0.004	0.024	0.008	< 0.0004	0.031
JUL 15,86	JUN 17,86	0.005	< 0.0002	1DT 0.009	0.042	0.004	< 0.0004	0.023
AUG 12,86	JUL 15,86	0.004	< 0.0002	0.004	D 0.037	D 0.005	< 0.0004	0.057
SEP 9,86	AUG 12,86	0.001	< 0.0002	0.006	0.005	0.002	0.0004	0.017
OCT 7,86	SEP 9,86	< 0.001	D 0.0003	1DT 0.023	0.015	D 0.005	< 0.0004	0.014
NOV 4,86	OCT 7,86	< 0.001	< 0.0002	< 0.002	1DT 0.014	0.010	< 0.0004	0.017

ONTARIO MINISTRY OF THE ENVIRONMENT
 CUMULATIVE SAMPLING ANALYSIS RESULTS
 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : OTTER ISLAND/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
MAY 20,86	APR 22,86	0.0013	UG 0.00017	0.0331
JUN 17,86	MAY 20,86	1DT 0.0013	< 0.00002	0.0186
JUL 15,86	JUN 17,86	1DT 0.0015	< 0.00002	0.0324
AUG 12,86	JUL 15,86	D 0.0012	<W 0.00001	0.0085
SEP 9,86	AUG 12,86	1DT 0.0007	< 0.00002	0.0479
OCT 7,86	SEP 9,86	0.0016	D 0.00008	0.0513
NOV 4,86	OCT 7,86	< 0.0004	< 0.00002	0.0079

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PICKLE LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	1430	1430	2	21.2	2	13839	2	1	59	
FEB 25,86	JAN 28,86	1430	1420	2	31.4	2	13840	2	1	60	QCD
MAR 25,86	FEB 25,86	1430	1430	2	13.0	2	13841	2	1	102	
APR 22,86	MAR 25,86	1430	1420	3	54.2	2	13842	2	1	71	
MAY 20,86	APR 22,86	1430	1700	1	103.6	2	13843	2	1	78	
JUN 17,86	MAY 20,86	1700	1430	1	40.0	3	13844	2	1	74	BCQ HM
JUL 15,86	JUN 17,86	1430	1430	1	68.0	3	13845	2	1	97	QC
AUG 13,86	JUL 15,86	1430	1430	1	54.0	3	13846	2	1	91	CD C
SEP 12,86	AUG 13,86	1430	1430	1	48.0	3	13847	2	1	69	ABC CMZ
OCT 8,86	SEP 12,86	1430	1430	1	69.0	3	13849	2	1	102	Z
NOV 5,86	OCT 8,86	1430	1730	2	25.2	2	13850	2	1	86	Q
DEC 3,86	NOV 5,86	1730	1715	2	98.8	2	13851	2	1	U 3	G CM
DEC 30,86	DEC 3,86	1715	1030	2	25.6	9	13852	2	1	I 31	N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	407.0	12.7	4.68	0.0427	0.55	0.36	0.10
FEB 25,86	JAN 28,86	615.0	7.7	4.87	0.0331	0.50	0.11	<T 0.03
MAR 25,86	FEB 25,86	434.0	7.3	5.20	0.0220	0.65	0.17	0.16
APR 22,86	MAR 25,86	1255.0	10.6	4.88	0.0310	1.40	0.23	0.28
MAY 20,86	APR 22,86	2653.0	11.3	4.83	0.0345	1.45	0.23	0.15
JUN 17,86	MAY 20,86	972.0	8.0	5.31	0.0260	1.20	0.23	0.52
JUL 15,86	JUN 17,86	2147.0	5.7	5.36	0.0222	0.55	0.15	0.11
AUG 13,86	JUL 15,86	1596.0	6.5	5.18	0.0287	0.50	0.15	0.17
SEP 12,86	AUG 13,86	1082.0	6.2	UG 6.83	0.0179	0.80	0.09	D 0.55
OCT 8,86	SEP 12,86	2296.0	7.0	4.98	0.0326	0.70	LG 0.08	<T 0.08
NOV 5,86	OCT 8,86	705.0	10.1	5.05	0.0293	1.30	0.33	0.28
DEC 3,86	NOV 5,86	101.0	LG 4.5	B 6.49	LG 0.0167	0.30	<T 0.03	0.10
DEC 30,86	DEC 3,86	258.0	16.9	4.49	0.0539	1.45	0.37	0.20

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PICKLE LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.26	0.18	0.025	<T 0.005	0.100	0.110	0.014
FEB 25,86	JAN 28,86	0.15	0.13	<T 0.010	<T 0.015	0.065	<T 0.005	0.007
MAR 25,86	FEB 25,86	0.28	0.19	0.035	D 0.120	0.180	0.080	0.010
APR 22,86	MAR 25,86	0.10	0.37	0.040	0.040	0.045	0.255	0.008
MAY 20,86	APR 22,86	0.08	0.38	0.030	0.025	0.040	0.330	0.008
JUN 17,86	MAY 20,86	<T 0.06	0.40	0.080	0.085	0.035	0.245	0.021
JUL 15,86	JUN 17,86	<T 0.06	0.27	0.020	0.040	<T 0.015	0.145	<T 0.005
AUG 13,86	JUL 15,86	<T 0.03	0.25	0.015	0.025	<W 0.005	LG 0.070	0.008
SEP 12,86	AUG 13,86	<T 0.04	0.30	D 0.070	0.070	0.020	0.150	D 0.014
OCT 8,86	SEP 12,86	0.06	0.14	<T 0.015	<T 0.015	<W 0.005	LG 0.080	<W 0.002
NOV 5,86	OCT 8,86	0.10	0.38	0.050	0.040	0.055	0.315	0.018
DEC 3,86	NOV 5,86	0.15	*****	<T 0.015	0.070	0.265	0.220	*****
DEC 30,86	DEC 3,86	0.30	0.40	0.070	<T 0.015	0.170	0.150	<T 0.018

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	0.0005	1DT 0.004	0.031	1DT 0.002	< 0.0004	1DT 0.031
FEB 25,86	JAN 28,86	0.001	< 0.0002	1DT 0.004	0.009	1DT 0.004	< 0.0004	1DT 0.025
MAR 25,86	FEB 25,86	0.001	0.0005	1DT 0.004	0.021	1DT 0.003	< 0.0004	1DT 0.036
APR 22,86	MAR 25,86	0.005	0.0002	1DT 0.007	0.077	1DT 0.007	< 0.0004	0.069
MAY 20,86	APR 22,86	0.003	< 0.0002	0.002	0.021	< 0.001	< 0.0004	0.058
JUN 17,86	MAY 20,86	0.007	< 0.0002	1DT 0.003	0.051	0.007	< 0.0004	0.059
JUL 15,86	JUN 17,86	0.002	< 0.0002	< 0.001	0.087	< 0.001	< 0.0004	0.024
AUG 13,86	JUL 15,86	0.001	< 0.0002	0.002	0.012	0.011	< 0.0004	0.025
SEP 12,86	AUG 13,86	0.003	< 0.0002	0.007	0.049	0.004	< 0.0004	0.066
OCT 8,86	SEP 12,86	< 0.001	< 0.0002	1DT 0.001	0.012	1DT 0.001	< 0.0004	0.014
NOV 5,86	OCT 8,86	0.004	< 0.0002	1DT 0.003	0.038	1DT 0.004	< 0.0004	0.029
DEC 3,86	NOV 5,86	0.002	< 0.0002	1DT 0.013	D 0.137	D 0.011	< 0.0004	0.108
DEC 30,86	DEC 3,86	0.011	< 0.0002	1DT 0.008	0.027	1DT 0.007	< 0.0004	0.054

ONTARIO MINISTRY OF THE ENVIRONMENT
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 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PICKLE LAKE/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	1DT 0.0011	0.00005	0.0209
FEB 25,86	JAN 28,86	0.0012	0.00005	0.0135
MAR 25,86	FEB 25,86	0.0030	0.00008	0.0063
APR 22,86	MAR 25,86	0.0006	0.00002	0.0132
MAY 20,86	APR 22,86	< 0.0003	0.00011	0.0148
JUN 17,86	MAY 20,86	UG 0.0120	< 0.00002	0.0049
JUL 15,86	JUN 17,86	< 0.0003	< 0.00002	0.0044
AUG 13,86	JUL 15,86	< 0.0003	< 0.00002	0.0066
SEP 12,86	AUG 13,86	1DT 0.0006	< 0.00002	UG 0.0001
OCT 8,86	SEP 12,86	1DT 0.0003	UG 0.00016	0.0105
NOV 5,86	OCT 8,86	< 0.0005	< 0.00002	0.0089
DEC 3,86	NOV 5,86	B 0.0156	< 0.00002	B 0.0003
DEC 30,86	DEC 3,86	1DT 0.0010	0.00002	0.0324

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/CUMULATIVE PRECIP. #32

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 28,86	DEC 31,85	900	1100	2	26.7	2	95086	2	1	59	
FEB 25,86	JAN 28,86	1100	1100	2	23.5	2	95286	2	1	U 58	G
MAR 25,86	FEB 25,86	1100	900	2	38.8	2	95287	2	1	52	
APR 22,86	MAR 25,86	900	900	3	24.7	9	95288	2	1	I 79	N
MAY 20,86	APR 22,86	900	1200	1	126.4	2	95289	2	1	45	N
JUN 17,86	MAY 20,86	1200	900	1	45.0	2	95290	2	1	109	C
JUL 15,86	JUN 17,86	900	900	1	166.0	9	95291	2	1	I 56	
AUG 19,86	JUL 15,86	900	900	1	32.6	9	95292	2	1	I 133	D NZ
SEP 9,86	AUG 19,86	900	900	1	59.8	9	95294	2	1	I 119	Z
OCT 7,86	SEP 9,86	900	900	1	68.8	3	95296	2	1	113	
NOV 4,86	OCT 7,86	900	900	3	28.6	9	95297	2	1	U 64	G
DEC 2,86	NOV 4,86	900	900	3	42.5	9	95298	2	1	U 62	G
DEC 30,86	DEC 2,86	900	900	2	13.7	9	95300	2	1	U 17	G C

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 28,86	DEC 31,85	514.0	13.1	4.67	0.0431	0.35	0.40	0.11
FEB 25,86	JAN 28,86	450.0	9.6	4.75	0.0314	0.50	0.21	0.04
MAR 25,86	FEB 25,86	658.0	9.3	4.91	0.0271	0.95	0.25	0.19
APR 22,86	MAR 25,86	634.0	13.1	5.00	0.0300	2.05	0.32	0.38
MAY 20,86	APR 22,86	1855.0	16.0	4.76	0.0371	2.30	0.34	0.21
JUN 17,86	MAY 20,86	1606.0	8.2	UG 6.69	0.0165	1.10	0.29	0.47
JUL 15,86	JUN 17,86	3023.0	6.4	5.31	0.0223	0.75	0.18	0.12
AUG 19,86	JUL 15,86	1411.0	7.8	5.08	0.0219	0.80	0.17	0.16
SEP 9,86	AUG 19,86	2326.0	7.5	4.95	0.0298	0.95	0.12	0.12
OCT 7,86	SEP 9,86	2533.0	9.2	4.87	0.0353	0.95	0.15	<T 0.08
NOV 4,86	OCT 7,86	596.0	8.7	4.99	0.0294	0.90	0.19	0.22
DEC 2,86	NOV 4,86	869.0	6.9	5.02	0.0291	0.55	0.13	<T 0.06
DEC 30,86	DEC 2,86	77.0	12.5	4.53	0.0430	0.85	0.30	0.12

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/CUMULATIVE PRECIP. #32

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REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 28,86	DEC 31,85	0.12	0.15	0.015	<W 0.005	0.085	0.085	0.015
FEB 25,86	JAN 28,86	0.08	0.08	<T 0.010	<T 0.005	0.050	0.030	0.018
MAR 25,86	FEB 25,86	0.10	0.26	0.020	<T 0.005	0.065	0.210	0.009
APR 22,86	MAR 25,86	0.12	0.64	0.060	0.045	0.125	0.435	0.014
MAY 20,86	APR 22,86	0.08	0.63	0.040	0.045	0.045	0.575	0.008
JUN 17,86	MAY 20,86	<T 0.05	0.48	0.115	0.040	0.025	0.370	0.010
JUL 15,86	JUN 17,86	<T 0.06	0.29	0.015	0.035	<T 0.015	0.220	<T 0.002
AUG 19,86	JUL 15,86	<T 0.05	0.30	0.020	0.035	<T 0.015	0.175	<T 0.004
SEP 9,86	AUG 19,86	<T 0.03	0.25	0.020	<T 0.015	0.020	0.190	<W 0.001
OCT 7,86	SEP 9,86	0.06	0.21	<T 0.020	<T 0.010	<W 0.005	0.160	<W 0.002
NOV 4,86	OCT 7,86	0.07	0.13	0.025	<T 0.010	<T 0.005	0.130	0.012
DEC 2,86	NOV 4,86	<T 0.05	<T 0.09	<T 0.010	<W 0.005	0.030	0.110	<T 0.004
DEC 30,86	DEC 2,86	0.26	*****	<T 0.015	<W 0.005	0.170	0.055	*****

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 28,86	DEC 31,85	0.002	< 0.0002	1DT 0.004	0.035	< 0.003	< 0.0004	1DT 0.053
FEB 25,86	JAN 28,86	0.001	< 0.0002	1DT 0.005	0.009	< 0.003	< 0.0004	1DT 0.030
MAR 25,86	FEB 25,86	0.002	< 0.0002	< 0.003	0.029	< 0.003	< 0.0004	1DT 0.027
APR 22,86	MAR 25,86	0.007	< 0.0002	1DT 0.008	0.074	< 0.003	< 0.0004	0.101
MAY 20,86	APR 22,86	0.006	< 0.0002	0.007	0.080	0.006	< 0.0004	0.068
JUN 17,86	MAY 20,86	0.006	< 0.0002	1DT 0.003	0.058	0.006	< 0.0004	0.052
JUL 15,86	JUN 17,86	0.002	0.0002	< 0.001	0.021	< 0.001	< 0.0004	1DT 0.018
AUG 19,86	JUL 15,86	0.003	< 0.0002	0.007	0.039	0.005	< 0.0004	0.029
SEP 9,86	AUG 19,86	0.001	< 0.0002	0.006	0.015	0.002	0.0004	0.019
OCT 7,86	SEP 9,86	< 0.001	0.0004	1DT 0.003	0.010	< 0.001	< 0.0004	1DT 0.009
NOV 4,86	OCT 7,86	0.002	< 0.0002	< 0.003	0.022	1DT 0.004	< 0.0004	0.027
DEC 2,86	NOV 4,86	0.001	< 0.0002	< 0.002	0.023	1DT 0.002	< 0.0004	0.015
DEC 30,86	DEC 2,86	*****	*****	*****	*****	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/CUMULATIVE PRECIP. #32

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REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 28,86	DEC 31,85	0.0007	0.00006	0.0214
FEB 25,86	JAN 28,86	0.0010	0.00006	0.0178
MAR 25,86	FEB 25,86	0.0005	0.00005	0.0123
APR 22,86	MAR 25,86	< 0.0005	0.00005	0.0100
MAY 20,86	APR 22,86	0.0030	0.00007	0.0174
JUN 17,86	MAY 20,86	1DT 0.0012	< 0.00002	UG 0.0002
JUL 15,86	JUN 17,86	< 0.0003	< 0.00002	0.0049
AUG 19,86	JUL 15,86	0.0009	< 0.00002	0.0083
SEP 9,86	AUG 19,86	1DT 0.0006	< 0.00002	0.0112
OCT 7,86	SEP 9,86	1DT 0.0006	UG 0.00015	0.0135
NOV 4,86	OCT 7,86	< 0.0005	< 0.00002	0.0102
DEC 2,86	NOV 4,86	0.0017	B 0.00092	0.0095
DEC 30,86	DEC 2,86	*****	*****	0.0295

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WINISK/CUMULATIVE PRECIP.

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 29,86	JAN 3,86	1100	1030	2	21.3	9	35756	2	1	I 29	C Z
FEB 25,86	JAN 29,86	1030	1000	2	12.1	9	35769	2	1	I 71	C
MAR 25,86	FEB 25,86	1000	1000	2	26.9	9	35827	2	1	I 12	CD H
APR 22,86	MAR 25,86	1000	1030	1	42.7	9	35855	2	1	I 54	D
MAY 20,86	APR 22,86	1030	1000	1	90.4	9	35882	2	1	I 37	ACD
JUN 11,86	MAY 20,86	1000	1120	1	29.2	9	35928	2	1	I 20	C HCMZ
JUL 14,86	JUN 11,86	1120	930	1	81.8	9	35991	2	1	I 46	ACDQ HCMZ
AUG 11,86	JUL 14,86	930	930	1	78.7	9	36076	2	1	I 72	ACD HCM
SEP 9,86	AUG 11,86	1000	1030	1	44.9	9	36149	2	1	I 252	CD
OCT 7,86	SEP 9,86	1030	1100	1	252.9	9	36225	2	1	I 8	ABCD

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 29,86	JAN 3,86	202.0	35.7	4.58	0.0632	3.40	0.91	0.92
FEB 25,86	JAN 29,86	282.0	8.9	4.95	0.0335	0.80	<T 0.05	LG 0.11
MAR 25,86	FEB 25,86	106.0	20.3	6.30	0.0166	2.25	0.06	0.82
APR 22,86	MAR 25,86	752.0	18.2	4.68	0.0431	2.50	0.26	0.38
MAY 20,86	APR 22,86	1093.0	39.9	4.14	UG 0.0986	UG 5.35	UG 0.42	0.53
JUN 11,86	MAY 20,86	193.0	U 18.2	U 6.84	0.0328	0.85	0.09	1.89
JUL 14,86	JUN 11,86	1237.0	U 16.4	U 6.47	0.0354	0.90	0.11	0.93
AUG 11,86	JUL 14,86	1845.0	U 10.0	U 7.37	U 0.0100	0.70	0.13	U 1.21
SEP 9,86	AUG 11,86	3677.0	12.3	6.08	0.0192	1.45	0.08	0.45
OCT 7,86	SEP 9,86	738.0	39.5	U 7.14	0.0315	1.65	0.06	0.93

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WINISK/CUMULATIVE PRECIP.

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PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 29,86	JAN 3,86	2.25	0.92	0.230	0.125	1.300	0.735	0.061
FEB 25,86	JAN 29,86	0.31	0.15	0.030	<T 0.005	0.185	<W 0.005	0.023
MAR 25,86	FEB 25,86	3.60	0.32	0.350	0.085	1.570	<W 0.005	0.032
APR 22,86	MAR 25,86	0.34	0.42	0.080	0.030	0.250	0.320	<T 0.005
MAY 20,86	APR 22,86	0.24	0.61	0.075	0.050	0.145	0.475	0.015
JUN 11,86	MAY 20,86	0.60	U 25.50	0.315	0.130	0.255	0.365	U 0.149
JUL 14,86	JUN 11,86	0.83	U 8.00	0.135	0.055	0.290	0.950	U 0.070
AUG 11,86	JUL 14,86	0.18	0.39	0.150	0.035	0.085	0.100	0.009
SEP 9,86	AUG 11,86	1.65	0.48	0.145	0.055	0.900	0.145	0.011
OCT 7,86	SEP 9,86	5.80	U 4.05	0.375	U 0.680	2.180	U 1.850	0.560

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 29,86	JAN 3,86	UG 0.006	0.0008	1DT 0.014	0.190	1DT 0.007	0.0007	1DT 0.104
FEB 25,86	JAN 29,86	< 0.001	< 0.0002	0.027	0.011	< 0.005	< 0.0004	1DT 0.046
MAR 25,86	FEB 25,86	*****	*****	*****	*****	*****	*****	*****
APR 22,86	MAR 25,86	0.002	0.0003	1DT 0.005	0.032	1DT 0.009	< 0.0004	0.052
MAY 20,86	APR 22,86	0.005	0.0002	1DT 0.009	0.058	1DT 0.003	< 0.0004	0.060
JUN 11,86	MAY 20,86	0.007	0.0011	1DT 0.017	U 0.635	U 0.031	< 0.0004	U 1.309
JUL 14,86	JUN 11,86	0.007	0.0007	1DT 0.002	0.023	< 0.002	< 0.0004	U 1.018
AUG 11,86	JUL 14,86	0.002	0.0005	< 0.002	0.030	1DT 0.002	< 0.0004	0.044
SEP 9,86	AUG 11,86	0.002	< 0.0002	0.002	0.020	0.003	< 0.0004	0.034
OCT 7,86	SEP 9,86	0.007	< 0.0002	1DT 0.006	0.062	< 0.002	< 0.0004	0.088

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WINISK/CUMULATIVE PRECIP.

#29

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 29,86	JAN 3,86	0.0031	0.00100	0.0263
FEB 25,86	JAN 29,86	0.0028	0.00040	0.0112
MAR 25,86	FEB 25,86	*****	*****	0.0005
APR 22,86	MAR 25,86	1DT 0.0006	0.00004	0.0209
MAY 20,86	APR 22,86	1DT 0.0015	0.00012	0.0724
JUN 11,86	MAY 20,86	U 0.0108	< 0.00002	U 0.0001
JUL 14,86	JUN 11,86	< 0.0004	0.00023	U 0.0003
AUG 11,86	JUL 14,86	< 0.0003	0.00003	U 0.0000
SEP 9,86	AUG 11,86	1DT 0.0012	< 0.00002	0.0008
OCT 7,86	SEP 9,86	1DT 0.0023	0.00014	U 0.0001

PART VIII

QUÉBEC INTERCOMPARISON SITE LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/CUMULATIVE PRECIP./7011

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REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 02,03-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
NOV 4,86	OCT 8,86	1045	1445	1	72.5	2	40518	2	1	107	A
DEC 2,86	NOV 4,86	1445	1000	1	*****	*	75026	2	1	***	EFI
DEC 30,86	DEC 2,86	1045	1035	3	65.0	2	75049	2	1	77	M

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
NOV 4,86	OCT 8,86	2526.0	UG 32.3	UG 4.21	UG 0.0862	UG 2.75	LG 0.59	LG 0.18
DEC 2,86	NOV 4,86	*****	*****	*****	*****	*****	*****	*****
DEC 30,86	DEC 2,86	1641.0	UG 13.3	UG 4.61	UG 0.0463	1.00	LG 0.26	<T 0.04

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/CUMULATIVE PRECIP./7011

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
NOV 4,86	OCT 8,86	0.11	LG 0.48	<T 0.020	0.030	0.050	LG 0.360	LG 0.021
DEC 2,86	NOV 4,86	*****	*****	*****	*****	*****	*****	*****
DEC 30,86	DEC 2,86	0.07	LG 0.16	<T 0.005	<W 0.005	0.030	LG 0.065	<T 0.005

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
NOV 4,86	OCT 8,86	0.002	0.0002	1DT 0.008	0.016	0.005	0.0006	0.016
DEC 2,86	NOV 4,86	*****	*****	*****	*****	*****	*****	*****
DEC 30,86	DEC 2,86	0.001	< 0.0002	1DT 0.002	0.010	1DT 0.002	< 0.0004	1DT 0.014

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/CUMULATIVE PRECIP./7011

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
NOV 4,86	OCT 8,86	1DT 0.0006	0.00003	UG 0.0617
DEC 2,86	NOV 4,86	*****	*****	*****
DEC 30,86	DEC 2,86	< 0.0003	0.00106	UG 0.0245

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